# MUGHAL WEAPONS IN THE BABUR-NAMA

G.N. PANT

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## MUGHALWEAPONS THE BABUR-NAMA

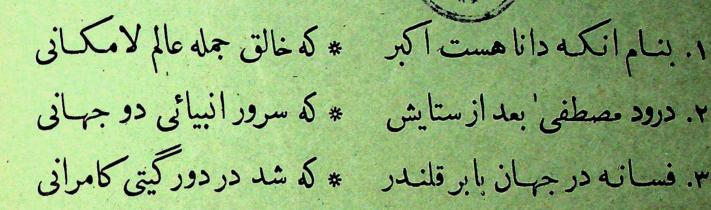
G.N.PANT

Babur-nama, the autobiography of Babur, the founder of Mughal rule in India, has been universally acclaimed as on e of the twenty best books ever written in the history of manking. The original Turkish manuscript written in Babur's own hand, no longer exists. It was translated into Persian by Abd-ur Rahim Khankhana at the instance of Akbar and was later illustrated by all the leading painters of the Mughal court. Of the several manuscripts of the Babur-nama illustrated at Akbar's court, only five are known two survive today. These are present in the British Museum, London; the Victoria and Alvert Museum, London; the Louvre, Paris, the State Museum of oriental culture. Moscow and the national Museum New Delhi. The National Copy Contains 145 paintings of which 54 bear the names of 40 artists. It was completed in 1598 A.D.

The Manuscript is indeed very rare and the attempt of Dr.G.N.Pant the renewed Scholar of Indian arms and armour is still rare. Dr.Pant has successfully tried to take out all variants of early mughal weapons as depicted therein, and corroborate them with existing examples and thus present a very comprehensive picture.

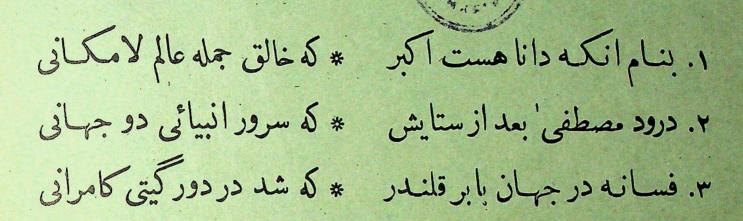
The Book is profusely illustrated with more that three hundred line drawings, fifty black and white photographs and twenty color photos all based on the National Museum Manuscript.

The Book is the product of decades of dedicated study, meticulous research and vast experience and is ordained to prove a landmark in the armeology of India.



- I. Ba nām-i-anki dānā hast akbar Ki khāliq-i-jamla 'ālam lā-makānī
- 2. Durūd Mustafá ba'd az sitāyish Ki sarwar-i-ambiyā' dū jahānī
- 3. Fasāna dar jahān Bābur qalandar Ki shud dar daur gītī kāmrānī.<sup>1</sup>

This incomplete inscription is engraved on Bābur's mosque in Ayodhyā, Uttar Pradesh. In the first couplet the poet praises God, in the second Muhammad, in the third Bābur. The poet gives Bābur the appellation of qalandar which means indifferent to all worldly pleasures. Having become the Emperor of India, Bābur had nothing to wish for on this earth. His name has become a legend.



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Dr. G.N. PANT Keeper National Museum New Delhi

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> Shabnam Akram Pradeep Kumar

Art adviser : A.B. Manakapure

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N.B. All photographs and line drawings, unless otherwise specified, are

from the National Museum Bābur-nāmā

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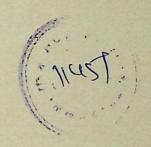
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Dedicated to

#### Dr. DAVID W. ECKER

Professor of Art, New York University, U.S.A., and Founder, International Society for the Advancement of Living Traditions in Art (ISALTA)

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Prelude

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#### Prelude

 $B\bar{a}bur-n\bar{a}m\bar{a}$ , truly speaking, is the first autobiography written by an emperor in India. It contains the truth, the whole truth and nothing but the truth. It presents a very faithful account of the country as seen by him. The arms, armour and war accessories gathered from the  $B\bar{a}bur-n\bar{a}m\bar{a}$ , provide us a correct picture of the weapons, both offensive and defensive, used by the Mughal warriors.

The actual arms and armour of pre-Bāburid period are very few except some fragmentary weapons unearthed during some of the archaeological excavations. The weapons belonging to the ancient Hindus, barring a few exceptions, are not at all available today; their description is based entirely on their depiction on sculptures, on coins, in paintings or on their accounts given in the literary texts. A number of arms and armour of the Delhi Sultanate period (1206-1526 A. D.) are no doubt, traceable but in the absence of inscription or date on the weapons or any other authentic evidence it has not been possible to assign them any definite date. No classification of Delhi Sultanate arms has so far been made in India and it is apprehended that hundreds of weapons of this period have been included into the category of Mughal weapons. The personal sword of Alauddin Khalji in the Prince of Wales Museum, Bombay; two inscribed helmets in the National Museum, New Delhi; a few typical Indo-Turkish kīlij Salar Jung Museum, in the Hyderabad, are some well known examples of the Delhi Sultanate period, even here it has not been possible to further divide them into 'Slave p-riod', 'Khaljī period, 'Lodi period', etc. The students of armeology have, for the sake of convenience, been grading all such weapons as 'pre-Mughal' without going into further details. Thus, the Bābur-nāmā can be credited to have provided us a very important data about the arms and armour employed by the early Mughals and their illustrations have enabled the author to identify each weapon and assign. wherever possible, a proper date to each of the available ones. All the museums in India or abroad, having collections of Indian arms and armour, predominate in the Mughal weapons mainly because they are available in plenty and have been identified. They are mostly ornamented or inscribed and, therefore, attract the visitors and also because the curator finds it easier to label them as 'Mughal' even though some of them are not so.

The Bābur-nāmā is not a book on weaponry but the way Bābur has narrated his struggles, his ups and downs, his victories and retreats, his killing others and the injuries received by him provide us enough material for the study of the arms and armour of his times. The way Bābur organised his army, the manner in which he carved a vast empire for himself and founded a dynasty that ruled for more than three hundred years; the strategy that enabled him to defeat a colossal army of one hundred thousand Afghan warriors including one thousand armoured elephants with just twelve thousand cavaliers; the tactics of tulghumā that turned the table at the most crucial moment; the use of fire-arms on a massive scale and the style of his persuading his twelve thousand soldiers to stay permanently in Indiaa land so strange, so alien, so hostile- are the lessons every successful commander of any age should learn and follow.

The original copy of the Bābur-nāmā written by Bābur in his own handwriting in Turkish language is nowhere available today. Our description is based on its Persian translation made by Abdur Rahim Khankhana in 1589 A.D. and its illustrations prepared in 1598 A.D. Thus it is not easy to distinguish the Baburid weapons from the ones used during Akbar period except in the cases where clear distinction is recorded in the Ain-i-Akbari or other contemporary works. Actual arms and armour belonging to Babur or the ones of his contemporary are not traceable in any museum of India today and there is no authentic way left to compare and contrast them with the ones painted in the manuscript. Akbar introduced some innovations in the case of matchlocks, discovered a machine to clean barrels, prescribed rules for wearing of arms, assigned proper names to some of the favourite weapons and so on, still the majority of the arms and armour including the fire-arms remained unchanged. Thus, the arms depicted in the illustrated copy of the Bābur-nāmā, strictly speaking, represent the weapons of the early Mughal period (1526-1598 A.D.) and not of Babur alone. These arms can be corroborated with the ones painted in other contemporary illustrated works such as Razm-nāmā, Tūtī-nāmā, Tārīkh-i-Khāndān-i-Timūriā, Hamzā-nāmā, etc. The Ain-i-Akbari provides a long list of weapons along with their then existing prices and there are a number of ains devoted to the arms and armour which are of immense value since they help us in verifying the weapons referred to in the Baburnāmā.

Were the fire-arms known to the Indians before or was Bābur the first person to introduce them in this country? This question has very widely been debated and an answer, acceptable to all, has still not been found. This issue has been discussed at length in one of the appendices. The First Battle of Pānīpat, the turning point of Indian history, shows how a general like Bābur could transform his seemingly impossible task into a conclusive victory and also explains that an arrogant, over confident, inexperienced youth like Ibrāhim Lodī can allow a wholesome victory to slip from his hand. In one of the appendices in the end Bābur's own account of this battle has been reproduced.

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The author has been associated with the National Museum, New Delhi, ever since its birth in 1960 and in the last three decades he has handled, classified, indexed and studied each of its seven thousand arms and armour including hundreds that belong to the Mughal period. The author has also been fortunate to study, by and large, all the collections of Mughal arms preserved in the museums, in the Defence godowns, in the police headquarters or in the private armouries of the erstwhile princes. Mughal arms preserved in the Hermitage Museum, Leningard, U.S.S.R.; the British Museum, the Tower of Armouries London; the Wallace Collection; the Victoria and Albert Museum-all in London; the Metropolitan Museum, New York; the Hamburgisches Museum for Volkerkunde, Hamburg, West Germany, etc., have carefully been studied by the author during his several visits abroad. Thus the account of Baburid arms and armour presented in the succeeding pages is very faithful and from the pen of a person who has dedicated his entire life to the study of Indian arms and armour.

Out of the five illustrated copies known to have existed in the world today, the most complete, the best illustrated and very well preserved copy is with the National Museum, New Delhi. The author has the rare privilege of making the direct and first-hand study of this manuscript; handle its rarest of the rare miniature paintings and take photographs. This was an incredibly fascinating experience indeed.

The author is conscious of his shortcomings and invites suggestions from the readers. The  $B\bar{a}bur$ - $n\bar{a}m\bar{a}$  is the most precious jewel of Indian historical literature and the attempt to extract arms and armour mentioned therein should be considered as a homage paid to Zahīruddīn Muhammad Bābur, the most illustrious man and the most accomplished prince of his age, and nothing more.

6th March, 1989 (Mahāshivarātri) National Museum New Delhi

G.N. Pant

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Prostration to Bābur who wrote the autobiography, to Akbar who got it illustrated, to Abdur Rahīm Khānkhānā who translated it and to those scholars who worked on it from time to time.

It is my foremost duty to express my profound reverence and grateful thanks to  $Padmabh\bar{u}$ , and Dr. L.P. Sihare, Director General, National Museum, who allowed me to study the original  $B\bar{a}bur-n\bar{a}m\bar{a}$  and permitted to use its photographs.

I shall be failing in my duties if I do not pay homage to Dr. Grace Morley who inspired me to take up the study of Indian arms and armour in 1960 and to Shri C. Sivaramamurti who told me how to hold the pen. I deeply regret that they are no more today.

Among the National Museum colleagues thanks are due to Lala Aditya Narain, Dr. (Miss) Shashi Asthana, Miss R. Vanaja, Capt. A. Mathews, Shri A.K. Datta, Shri D.P. Sharma, Shri Jitendra, Shri Sunjay Jain, Mrs Anamika Pathak, Shri G.K. Sharotri, Dr. Chhaya Haesner, Shri Nasim Akhtar, Dr. S.P. Gupta, Smt. Krishna Lal, Dr. Daljeet, Shri Pramod Ganapatye, Dr. A.K. Das, Shri U. Das, Dr. A.K. Tewari, Mrs Pratibha Parashar and a host of other persons who directly or indirectly helped and made the literary, epigraphic, numismatic, sculptural or other evidences, pertaining to Mughal arms and armour, available. My friends in the Department of Education namely Sarvashri B.S. Bhatt, V.K. Mathur, K.N. Gupta, Vinod, Pyare Lal, Kalika Jatti and Mrs Veena Sharma deserve special mention. I owe my warm thanks to all of them.

My very sincere friends Shri A.K. Awasthi, Shri S.L. Kalra and Shri J.L. Sood stood at my beck and call and provided much needed financial assistance. My heartfelt thanks to them. My wife Reva and my two sons, Sanjay and Ashish, ungrudgingly sacrificed their personal comforts for my study. My genuine love to them.

In conclusion I avail myself of this opportunity to record here my deep obligation to Dr. Agam Prasad of Agam Kala Prakashan and Shri Kuldeep Raj of Raj Press whose untiring efforts and generosity have produced the book in this format.

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- 68. Bābur witnessing fights. Artists Banwārī Khurd. Such scenes were very popular throughout the Mughal period. The elephant fight needs special mention (folio No. 350).
- 69. Bābur seated in the house of Sultān Jalāl-ud-dīn in Karrah fort. Artist Jagnath. A few matchlock guns are seen (folio No. 360).
- 70. Bābur crossing the river Son over a bridge of boats. Artist Jagnāth. A crocodile is being shot with matchlock gun (folio No. 366).
- 71. Bābur on the death bed. He is being attended to by royal physicians (folio No. 51).

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- 1. Babur in Char-bagh at Andijan.
- 2. Bābur feasting at Kohāt. Painted by artist Daulat.
- 3. Babur enjoying a feast given by the Mirzas at Herat.
- 4. Bābur crossing a river seated on a raft.
- 5. Bābur meeting Khanzada Begum, Mehr Banum and other ladies.
- 6. Aurang or throne used as a sign of royalty.
- 7. Royal chair consisting of four short legs made of round spheres. It is without arms and has a back seat.
- 8. Royal chair consisting of a square seat supported on four small and round legs.
- 9. Aurang or throne made of wood. It comprises six ornamental legs with a railing on its sides and a high back.
- 10. Aurang or throne consisting of six small and ornamental legs and a railing.
- 11. End of a boat. Boats were of various shapes and sizes and were used for siege, travels and trade.
- 12. Boat, hemispherical, made of seasoned wood, one end is shaped like a bird, The mast is also visible.
- 13. End of a boat. It is shaped like the neck of a swan.
- 14. End of a boat used in the battle.
- 15. A big boat mainly used for an assembly.
- 16. A simple boat used for crossing the river.
- 17. Manjāniq or catapult, a mechanical device to discharge darts and stones based on the principle of levers.
- 18. Raft called  $j\bar{a}l\bar{a}$  or  $jh\bar{a}l\bar{a}$ . It was a flat plane made of bamboo and wooden poles fastened together like a mat.
- 19. Carriage (bahl), used as conveyance, was driven by the bullocks.
- 20. Gun-carriage used to carry small cannons. It has a pair of strong solid wheels and a rectangular seat supported by side planks.

- 21. Carriage comprising two spoked wheels and a rectangular seat profusely embellished.
- 22. Carriage supported on a horizontal axle provided with spoked wheels on either sides.
- 23. This painting by Tulsī who specialised in drawing animals, shows a hunting scene in Afghanistan.
- 24. Bow (kamathā) with a single hemispherical curve. The two nocks are curved upwards.
- 25. Kamathā bow made of a single piece of wood, bamboo or cane.
- 26. Bow, double curved, also called easy bow (narm-dik).
- 27. Small slur bow (taksha-kamān), preferred by the cavaliers.
- 28. Bow, double curved, preferred by the cavaliers.
- 29. Fastening of a bow. The string was three-or-four-stranded, round, smooth and of even size throughout.
- 30. Arrow  $(t\bar{\imath}r)$  with a reed shaft.
- 31. Arrow  $(t\bar{\imath}r)$  having the shaft of reed or bamboo.
- 32. Arrow  $(t\bar{\imath}r)$ , plain reed shafs. Triangular steel blade, comparatively larger, with a pointed end.
- 33. Arrow (tir), plain cylindrical shaft. The triangular-shaped steel blade is
- 34. Arrow  $(t\bar{\imath}r)$  having almond-shaped head  $(tarah-i-b\bar{a}d\bar{a}m)$ . The reed shaft was inserted into the hollow shank of the blade.
- 35. Arrow  $(t\bar{\imath}r)$  having broad hexagonal head with a small shank. The shaft of reed was inserteb into it.
- 36. Tukkāh (also called na-kattā or nuktāh) arrow without a pointed head.
- 37. Nārācha, crecsent-shaped blade ((tarah-i-hilāl) aimed at cutting the throat.
- 38. Nārācha, crescent-headed blade (tarah-i-hilāl), the blade and the entire shaft are made of steel and are cast together.
- 39. Tarkash (quiver). It was worn handily at the wrist of the foot-soldier which kept the arrows to his hand and ready for instant withdrawal.
- 40. Qirban or bow-case which was exclusively for bows.
- 41. Qirbān, quiver exclusively for bows. It is made of velvet and is embroidered all over with floral and creeper design.
- 42. Qirbān (bow-container) purposely decorated with floral and creeper designs.
- 43. Qirban or bow-case. Its one side is straight and tde other is sloping to a point.
- 44. Qirbān (bow-case) made of soft skin and profusely embellished with embroidered geometrical, floral and creeper motifs.
- 45. tarkash (quiver) used by the foot-soldier who carried it on the back fastened with leather straps.
- 46. Qirbān or bow-case. Its one side is straight and the other side looks like a half bow.
- 47. Jaibāh (quiver) made of cloth or leather. It has a broad circular mouth and a curved tip.

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48. Bābur in Kabul, painted by Tulsī. Bābur captured a flock of sheep from the Hazārās. He is riding a caparisoned horse.

- 49. Gaddārā literally meaning 'a weapon useful in gadar' (mutiny or riot).
- 50. Sosun-pattā (lit. 'lily leaf' form of sword.
- 51. Sosun-pātta, the hilt comprises a dome-shaped pommel, cylindrical grip and straight quillons.
- 52. Talwār, slightly curved, single-edged blade double-edged at the lower end.
- 53.  $Dh\bar{u}p$ . It has a long, broad, straight, double-edged blade gradually tapering. The hilt consists of two bowls placed one upon the other and a pair of straight langets.
- 54. Khāndā having a straight blade widening towards the point. It is single-edged in the upper half and double-edged in the second half.
- 55. Bābur, holding a hawk, is standing near a reservoir at Kābul which he got constructed.
- 56. Kōrā having very heavy single-edged blade.
- 57. Sosun pattā, cylindrical hilt, recurved quillons.
- 58. Hilt consisting of a small tang button, a dome-shaped pommel and a cylind-rical grip.
- 59. Hilt, comprising a small tang button, a bowl-shaped pommel, a cylindrical grip.
- 60. Hilt, a small tang button, bowl-shaped pommel, diamond-shaped grip and triangular langets.
- 61. Sword inside a decorated sheath. Sheath bears geometrical designs.
- 62. Dagger, triangular blade with a small mid-rib tapers to a point. The hilt consists of a bow-like recurved pommel and a cylindrical grip.
- 63. Jamadhār, v-shaped hilt consists of two horizontal and two vertical bars; triangular blade, gradually tapering to a point.
- 64. Guptī-kārd seems like a knife concealed in a stick.
- 65. Khanjar, double-edged, slightly curved blade was usually of fine forging of watered steel, often finely carved.
- 66. Infantry lance, leaf-shaped blade, cylindrical wooden handle.
- 67. Infantry lance, leaf-shaped broad blade with a long shank.
- 68. Infantry lance, leaf-shaped broad blade.
- 69. Infantry lance, leaf-shaped blade with a shank.
- 70. Cavalry lance, leaf-shaped, comparatively thin and long blade with a shank.
- 71. Cavalry lance, leaf-shaped blade with a shank.
- 72. Excerpt from the illustrated manuscript of Bābur-nāmā depicing a fully armoured cavaliar riding a war-horse.
- 73. Sāk having an arrow-head-shaped blade with a pennon attached to the shaft.
- 74.  $S\bar{a}k$  having a small leaf-shaped pointed blade with two globular balls immediately below it.
- 75. Sāk, similar to No. 74 described earlier.
- 76. Nēzā comprising a small arrow-head-shaped blade of steel with a shank.

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- 77 Nēzā similar to No. 76 described earlier. The lower part of the shaft is plain.
- 78. Selārā, the leaf-shaped blade has a pennon tied to the shaft immediately below it.
- 79. Javelin, light and handy, thin leaf-shaped blade.
- 80. Javelin, light and handy, leaf-shaped blade with a shank.
- 81. Barachhā completely of steel having blades at both ends with a centra grip.
- 82. Selārā same as No. 76 described on the previous page.
- 83. Bābur warming before a camp fire.
- 84. Selārā, triangular blade on both sides. Plain wooden handle. It was a cavalry lance held in the middle and hurled in both the directions.
- 85. Lance-head, triangular with a socket.
- 86. Lance-head, leaf-shaped with a mid-rib.
- 87. Lance-head, leaf-shaped with a mid-rib.
- 88. Lance-head, globular with a mid-rib.
- 89. Lance-head, long shank, triangular head.
- 90. Lance-head, long shank, pointed head.
- 91. Lance-head, leaf-shaped with a tang.
- 92. Lance-head, long shank, knife-like blade.
- 93. Lance-head, leaf-shaped with a hole.
- 94. Lance-head, leaf-shaped with a hole.
- 95. Barachhā, long shank, triangular blade with a mid-rib.
- 96. Barachhā, long shank, four cornered blade.
- 97. Excerpt from the illustrated manuscript of the  $B\bar{a}bur-n\bar{a}m\bar{a}$  depicting a cavalier carrying a long  $n\bar{e}z\bar{a}$  in his right hand.
- 98. Bamboo shaft with the lower part covered with brocade.
- 99. Parade lance. Shaft of short ivory cylinders.
- 100. All steel. Shaft is hexagonal. Length 8 feet, 8 inches.
- 101. Head inlaid with gold butt with silver. Wooden shaft lacquered red.
- 102. Parade lance. Shaft of pieces of ivory. Head and butt chased and inlaid.
- 103. Cylindrical shaft covered with leather with narrow silver bands. Plain butt.
- 104, Bamboo shaft triangular grooved head, simple steel butt.
- 105. Ivory shaft. Leaf-shaped head, gilded butt.
- 106. Bamboo shaft. Plain steel head and butt. Length 12 feet, 4 inches.
- 107. Shashpar having six flanges surmounted by a knob. A short handle of iron was attached to it.
- 108. Shashpar having six flanges. A short handle of iron was attached to it.
- 109. Shashpar having six flanges. The head is bell-shaped like a tulip flower.
- 110. Mace, oval-shaped head is ridged all over.
- 111. Kistin having a longer handle to the end of which a sphere was attached.

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- 112. Mace, heavy and strong handle, bell-shaped ornamented head.
- 113. Mace, having strong and heavy handle and a head consisting of three tiers.
- 114. Mace, heaving strong and ornamented handle fitted with to circular, serrated plates.
- 115. Kistin, cylindrical handle to which is attached, with a chain, a head.
- 116. Kistin, globular head with three semi-circular bands attached to a handle.
- 117. Shashpar, flanged, oval-shaped head, cylindrical handle.
- 118. Piyāzī, the oval head shaped like an onion.
- 119. Piyāzī, oval-shaped head with four tiny knobs. It is attached to a cylindrical rod.
- 120. Kistin, head like a flower tied with a chain to a handle.
- 121. Kistin, trifoliated ridged head attached to a handle with a chain.
- 122. Gurz, having steel spikes fitted on the globular head.
- 123. Shashpar, head consisting of three tiers, one upon the other, ridged all over.
- 124. Mace, head shaped like three domes, one upon the other, ridged all over.
- 125. Khār-māhī, consisting of several steel spikes projecting on both sides of a straight handle.
- 126. Babur met the Mirzas of Khurasan in 1526 A.D. Drinks and food were served in gold silver cups.
- 127. Battle-axe, crescent-shaped blade attached to the cylindrical wooden handle with the help of two metallic loops.
- 128. Battle-axe, blade recurved like two arches.
- 129. Battle-axe, blade, serrated like two arches, has a globular knob.
- 130. Battle-axe, crescent-shaped blade, one end deeply curved.
- 131. Axe, plain, semi-circular blade balanced by a square socket.
- 132. Battle-axe almost rectangular blade with a square socket.
- 133. Axe, semi-circular cutting edge, the other side of the blade is projecting
- 134. Battle-axe, almost rectangular blade having one point abnormally long.
- 135. Axe with a simple, small blade.
- 136. Battle-axe, semi-circular blade with deeply curved ends.
- 137. Battle-axe, curved blade with a rim. It is balanced by a socket.
- 138. Battle-axe, semi-circular blade attached to the wooden handle.
- 138. Axe of the holy men, peculiar head, the wooden handle has knobs.
- 140. Battle-axe, crescent-shaped head with a rim. A cylindrical socket is attached.
- 141. Battle-axe, bowl-shaped blade recessed inside.
- 142. Battle-axe, cylindrical handle with three knobs, semi-circular blade,
- 143. Battle-axe, blade resembling a saucer, is comparatively broad and big.
- 144. Battle-axe, broad, crescent-shaped blade with a round socket.
- 145. Battle-axe, almost rectangular and slightly curved blade.
- 146. Battle-axe, comparatively large blade resembling a saucer.
- 147. Battle-axe, blade recurved like two arches, rectangular socket.
- 148. Battle-axe, recurved blade like two arches, rectangular heavy socket.
- 149. Battle-axe, curved blade haveing one end raised upwards.
- 150. Battle-axe, handle ornamented with ridges and floral design.

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- 151. Battle-axe, long and broad, semi-circular blade, rectangular socket.
- 152. Battle-axe, broad, semi-circular blade, round socket, plain wooden handle.
- 153. Tarangālēh, cutting edge is semi-circular and similar to a tabar with square socket and plain wooden handle.
- 154. Tabar-jaghnol, a combination of tabar and jaghnol.
- 155. Busolā similar to the carpenter's adze.
- 156. Jaghnol, steel handle ridged all over and has two knobs.
- 157. Trident (*trishula*), having two curved side blades and a straight central blade.
- 158. Trident, two side curved blade shaped like a spear-head.
- 159. A scene from the illustrated manuscript of the Bābur-nāmā. Bābur is portrayed wearing a ribbed helmet having cheek-pieces, half-sleeved tunic.
- 160. Excerpt from the illustrated manuscript of the Bābur-nāmā depicting a battle-scene.
- 161. Back view of an armoured warrior.
- 162. Dome-shaped bowl inscribed and decorated. Two eye-holes are cut.
- 163. Dome-shaped bowl without a nasal. Decorated all over and inscribed.
- 164. Dome-shaped bowl decorated with criss-cross design.
- 165. Dome-shaped bowl decorated with horizontal bands.
- 166. Dome-shaped bowl without a nasal, two eye-holds are cut.
- 167. Dome-shaped bowl decorated all over with curved bands. No nasal.
- 168. Baydah helmet, oval-shaped with a tang. No nasal, no camail.
- 169. Baydah helmet, decorated.
- 170. Oval-shaped helmet decorated with vertical bands. Nasal has a leaf-shaped end.
- 171. Helmet, plain oval-shaped bowl, two cheek-flaps and a nasal.
- 172. Oval-shaped bowl without a nasal, lower nasal decorated.
- 173. Oval-shaped helmet, decorated with panels, plain nasal.
- 174. This incident relates to 1502 A.D. and took place at Tashkent.
- 175. Armoured warrior wearing a dome-shaped helmet fitted with camail, He is putting on a half-sleeved armour over a full-sleeved shirt.
- 176. Armoured cavalier wearing a ribbed helmet with a kalaghī.
- 177. Armoured cavalier wearing a dome-shaped helmet with camail
- 178. Armoured cavalier putting on a conical helmet with cheek-pieces and camail.
- 179. A horse-archer wearing a ribbed helmet and a half-sleeved lamellar armour.
- 180. Details of a chār-āīnā plate depicting floral, creeper and geometrical design.
- 181. Two armoured warriors.
- 182. Breast-plate, almost square in shape with four straps, one at each corner.
- 183. Chain mail. Each link passes through four others in a regular pattern.
- 184. Double links, closely woven, inside diameter is less.
- 185. Inside diameter is still less.
- 186. Width of the link is more than half of the internal diameter.
- 187. Mail made of alternate rows of links cut from a plate each with a bar across it.

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188. Details of Mughal coat of mail, fine riveted links of steel are very closely interlaced.

- 189. Warrior putting on a half-sleeved coat of lamellar armour over a full-sleeved
- 190. Details from the illustrated manuscript of Mughal period showing warriors engaged in war.
- 191. Details from the illustrated manuscript of the Mughal period depicting a cavalier using a bow.
- 192. Fully armoured cavalier putting on a dome-shaped ribbed helmet.
- 193. An armoured cavalier putting on a ribbed helmet with camail.
- 194. Leg armour covering the foot and the foreleg.
- 195. Leg armour of steel and the foot armour of chain mail.
- 196. Leg armour of plate and mail, profusely decorated.
- 197. Foot armour covering from the ankle.
- 198. Leg armour profusely ornamented. The knee-cap is attached to it.
- 199. Rāk or leg-guard made like a boot.
- 200. Cavalier, fully armoured, long boots, short sword.
- 201. Armoured foot-soldier with a spear, wearing foot-armour also.
- 202. Armoured cavalier with a bow in qirban and a drawn sword.
- 203. Armoured knight with a convex shield.
- 204. Cavalier fully armoured.
- 205. Cavalier with foot in the stirrups.
- 206. Cavalier with a helmet.
- 207. Armoured cavalier with his foot in the stirrups.
- 208. Cavalier with sword and shield, quiver with bow and arrows.
- 209. Oval-shaped helmet, scale armour, rectangular shield.
- 210. Excerpt from the illustrated manuscript of the Bābur-nāmā portraying a cavalier putting on helmet, lamellar body armour, hand-guards.
- 211. A battle-scene. The painting is packed with action and excitements.
- 212. Convex and hemispherical, decorated all over.
- 213. Convex, outer surface fitted with five knobs (only three visible) with tassels.
- 214. Convex and conical, decorated all over nagārā type.
- 215. Edges made of overlapping splints, made of leather.
- 216. Outer surface decorated with geometrical designs, circular shield.
- 217. Circular shield decorated with geometrical design and sun in the centre.
- 218. Inside view, beaded border, square cushion with two leather straps.
- 219. Deeply curved and hemispherical shield.
- 220. Inner view of ashield, decorated on inside also.
- 221. Leaf-shaped shield, borders decorated with floral and creeper design.
- 222. Almost flat and rectangular, embossed with a flower in the centre.
- 223. Hemispherical and convex, surmounted by a small pinnacle.
- 224. Inner view of a circular shield.
- 225. Outer view of a should having four circles.

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- 226. A market scene of Andijan, the capital of Farghana.
- 227. Bābūr is seated under a tree.
- 228. Qashqā or chafron for horse's head.
- 229. Cavalier putting on a helmet, a half-sleeved coat and leg armour.
- 230. A cavalier by the side of his war-horse.
- 231. Saddle, made of leather and covered with cloth.
- 232. Nāl, semi-circular horse-shoe bearing nine holes.
- 233. Nāl, same as fig. No. 232 above.
- 234. Nāl, crescent-shaped horseshoe with nine holes for affixing the nails.
- 235. Rikāb, stirrups, rectangular base, pentagonal shape.
- 236. Rikāb, stirrups, rectangular base, semi-circular shape.
- 237. Ārtak-kājem, armour for the horse.
- 238. Chest armour for the protection of the chest.
- 239. Gardanī, one piece armour moulded in the form of horse's neck.
- 240. Gardani or neck armour made of one piece of steel.
- 241. Imari, looking like a tent with an entrance.
- 242. Litter, square body with a small dome.
- 243. Litter
- 244. Caltrap planted singly in the ground to prevent the advance of horses.
- 245. Caltrap. Four spikes radiating from a common point.
- 246. Litter, square.
- 247. Seat used for soldiers to descent from heights.
- 248. Howdah, with a canopy and an opening.
- 249. Howdah, flat and rectangular.
- 250. Howdah, with a canopy.
- 251. Elephant-goad, head only. Steel inlaid with silver.
- 252. Profusely decorated elephant-goad.
- 253. Steel head, ivory handle, elephant-good.
- 254. Head only, all steel, elephant-good.
- 255. Head only, all steel, elephant-good.
- 256. Verp small, probably made for mahāut's child.
- 257. Carved steel head. Handle of steel with a curved end.
- 258. Very rough iron forging, elephant-good.
- 259. Huge cannon on a wheeled pedestal.
- 260. Three cannons, each placed on a two-wheeled cart with a sloping back rest.
- 261. Cannon placed on a four-wheeled cart.
- 262. Cannon placed on a two-wheeled cart having a sloping back rest.
- 263. Cannon of metal; the muzzle is shaped like a funnel.
- 264. Cannon, the muzzle shaped like a funnel. It has only one metallic band.
- 265. Cannon mounted on a two-wheeled cart.
- 266. Cannon placed on a four-wheeled cart.
- 267. Cannon placed on a two-wheeled carriage.
- 268. Carriage to carry a cannon.

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- 269. Cannon placed on a tripod.
- 270. Cannon placed on a four-wheeled cart.
- 271. Single barrelled, muzzle loading matchlock (toredar) gun.
- 272. Single-barrelled muzzle-loading matchlock gun with a muzzle-loading rod.
- 273. Matchlock gun used by the foot-soldiers, short cylindrical barrel.
- 274. Jazali, used from the back of the camels.
- 275. Jazali, used from the back of the camel.
- 276. Narnāl, short barrel, heavy butt slightly curved, used by the foot-soldiers.
- 277. Gājnāl, heavy gun used from the back of the elephant,
- 278. Narnāl, short barrel, heavy wooden curved butt. Used by the foot-soldiers.
- 279. Narnāl, used by the foot-soldiers, long barrel with funnel type muzzle.
- 280. Matchlock gun, long, cylindrical barrel decorated all over.
- 281. Matchlock gun with a muzzle-loading rod.
- 282. Matchlock gun, long barrel, wooden furniture. Curved wooden butt.
- 283. Matchlock depicting spring on the back of the trigger.
- 284. Matchlock, long barrel. The wooden butt is curved with a broad end.
- 285. Matchlock with an automatic pan-opener.
- 286. Matchlock.
- 287. Matchlock gun. Long barrel with a muzzle-loading rod.
- 288. Fully armoured warriors riding armoured horses and carrying sword, shield, bows.
- 289. A matchlock gun, long barrel, rectangular wooden butt.
- 290. Gunpowder flask of ivory.
- 291. The battle of Panipat.

#### Scheme of transliteration

Vowels =  $a, \bar{a}, i, \bar{\imath}, \gamma a, \gamma \bar{a}, u, \bar{u}$ 

Dipthongs = e, ai, o, au

Anusvāra =  $\dot{m}a$  (real), ma (unreal)

Visarga = ha

Consonants

Gutturals = ka, kha, ga, gha, na

Palatals = cha, chha, ja, jha,  $\tilde{n}a$ 

Linguals = ta, tha, da, dha, na

Dentals = ta, tha, da, dha, na

Labials = pa, pha, ba, bha, ma

Others = ya, ra, la, va, śa, ṣa, sa, ha, kṣa, tra, gña

# Abbreviations

A.B.O.R.I.	Annals of the Bhandarkar Research Institute, Poona
Ait. Br.	Aitareya Brāhmana
A.I.	Ancient India
A.S.I.A.R.	Archaeological Survey of India Annual Reports
A.V.	Atharvavéda
B.M.C.	Catalogue of Coins in British Museum, London
C.I.I.	Corpus Inscriptionum Indicarum
E.I.	Epigraphia Indica
I.A.	Indian Antiquary
I.A.R.	Indian Archaeology-a Review
I.H.Q.	Indian Historical Quarterly
J.A.S.B.	Journal of Asiatic Society of Bengal
J.A.O.S.	Journal of American Oriental Society
J.B.O.R.S.	Journal of the Bihar and Orissa Research Society
J.I.S.O.A.	Journal of Indian Society of Oriental Art
J.N.S.I.	Journal of Mumismatic Society of India
J.O.I.	Journal of Oriental Institute of Baroda
J.R.A.S.	Journal of Royal Asiatic Society, London
J.U.P.H.S.	Journal of U.P. Historical Society
Nīti	Nītiprakāśikā
Numismatic	Numismatic Chronicle
P.H.A.I.	Political History of Ancient India
R.A.S.I.	Report of the Archaeological Survey of India
S.B.	Śatapatha Brāhmaṇa
S.B.E.	Sacred Books of the East
S.V.	Sāmavéda
Tait. Ar.	Taitiirīya Āraṇayaka
T.S.	Taittirīya Samhitā
V.S.	Vājasaneyī Samhitā
Yāj.	Yājñavalkyasmṛiti

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# The Babur-nama

### Introduction

Bābur-nāmā (also called Wāqiāt-i-Bāburī) is the autobiography of Zahīr-uddīn Muhammad Bābur (1483-1530 A.D.), the founder of Mughal rule in India (fig. 1). It records the victories and disappointments of Bābur's endless military campaigns (fig. 291), coupled with candid and perceptive comments on his family and himself, his companions and enemies, with graphic descriptions of Turkestan, Afghanistan (fig. 3) and most importantly, of Hindustan (India): its climate, flora, fauna, products, water supply, trade, population and customs (fig. 2). It is a fresh and spontaneous recital of things seen (figs. 6-10), heard and accomplished. The memoirs of Bābur were written in his own hand and illustrated under the orders of his grandson Jalāl-ud-dīn Muhammad Akbar (1542-1605 A.D.). The work is a faithful record of Bābur's life, lacking in flowery phraseology and hyperbole.

#### The memoirs

The upbringing of Bābur, according to Mirzā Haider Daughlāt, his historian-cousin, included training in calligraphy, verse recitation, painting, illumination and even seal engraving. He had in his library Persian classics like Shāh-nāmā of Firdausī and Zafar-nāmā of Sharāf-ud-dīn Alī Yazdī, containing illustrations by such celebrated Persian masters as Bihzād and Muzaffar Alī. He invented a new style of writing and named it Khatt-i-Bāburī. Before Bābur's time, Timūr (Tamerlane, 1336-1405 A.D.) had written an autobiography called Malfuzāt-i-Timūrī which begins with Timūr at the age of seven. Timūr's grandson, Ausugh Beg, was also a writer of repute. When Bābur began his memoirs, there was

already a well established tradition of detailed and faithful autobiographical writing. Timur's autobiography set a precedent for Babur's work although the frameworks of the two autobiographies are different.

### Biography of the autobiography

Babur (fig. 1) lived for forty-seven years and ten months, but the surviving text records only some eighteen years. Originally written in Turkī (Chagatāī



Fig. 1 Bābur in Chār-bāgh at Andijān. Bābur mounted on a horse followed by his retainers is going to Akhsī. The soldiers are armed with matchlock guns, swords, shields and clubs.

The Bābur-nāmā

Turkish, also called Chagatāī Turkic) in Bābur's own hand, the extant book begins when Bābur is twelve and does not record his date of birth or any other biographical details prior to his accession. Nothing is mentioned to indicate what was Bābur's chosen title for his autobiography. It has been called Bābur-nāmā (History of Bābur) in accordance with the Timūrid histories such as Zafar-nāmā, Humāyūn-nāmā and Akbar-nāmā. The gaps in Bābur's history can be partly filled from the Tabaqāt-i-Bāburī, which was written in Persian during Bābur's time by his secretary Shaikh Zain-ud-dīn of Khawāf, and partly from Humāyūn-nāmā, a chronicle of family affairs written by Bābur's daughter, Gulbadan Begum, in 1587, fifty-seven years after her father's death.

The original Turkī manuscript no longer exists. Bābur wrote that in 1529 his tent caught fire and the copy of the Bābur-nāmā was badly damaged but later repaired. Humāyūn (1508-56 A.D.) annotated his father's book in 1555. In 1559 Akbar ordered it to be translated into Persian for the use of Abu'l Fazl Allāmī, Akbar's official chronicler and biographer, in the writing of the Akbar-nāmā. The translation was taken up by Abd-ur-Rahīm Khānkhānā (Commander-in-chief), in the same year and was completed thirty years later in November, 1589.

Jahāngīr wrote in his autobiography that in 1607 he had examined the Bābur-nāmā in 'Bābur's blessed handwriting'. Thereafter nothing is known of that Turkī version. In 1813, Erskine finished an English translation of the Persian Bābur-nāmā which was published in 1826 under the title Memoirs of Bābur. In 1900, Annette S. Beveridge found one copy of the Bābur-nāmā written in Turkī. It bore no date but its paper indicated that it probably was copied around 1700. Among all the known manuscripts, this Hyderabad Codex (at present in the Salar Jung Museum Library, Hyderabed) is the most complete, having 382 folios. It was copied in facsimile in 1905. An English version was prepared by Beveridge and published in 1921 under the title Bābur-nāmā.

Of the several manuscripts of the Bābur-nāmā illustrated at Akbar's court at the Shah's order, only five are known to exist. These are preserved in the National Museum, New Delhi; the British Museum, London; the Victoria and Albert Museum, London; the Louvre, Paris and the State Museum of Oriental Cultures, Moscow. The last three are incomplete collections. A single painting depicting 'a bird trapper at work' is in the Fogg Art Museum at Harvard University, U.S.A. The National Museum, New Delhi manuscript (No. 50. 326; published recently) is a collection of 378 loose folios and bears no library mark. It contains 145 paintings, of which fifty-four bear the names of forty artists. As many as fifty-five paintings are unscribed, whereas the rest have either illegible inscriptions or have been eliminated in the process of trimming. Folio 116 declares that the paintings on it were completed in the forty-second regnal year of Akbar i.e., 1598 A.D. Among the leading painters of the Bābur-nāmā Daulat, Kesū, Khemkaran, Farrukh, Jagannath, Manohar, Mansur, Miskin, Mahesh, Sanwlah and Shankar may be noted. Many of them were recognized by Abu'l Fazl Allami in Akbar's official chronicles and later attained fame.



Fig. 2 Bābur feasting at Kohāt. Painted by artist Daulat, it depicts a camp scene. Soldiers are busy cooking food, making fire, eutting meat, etc.

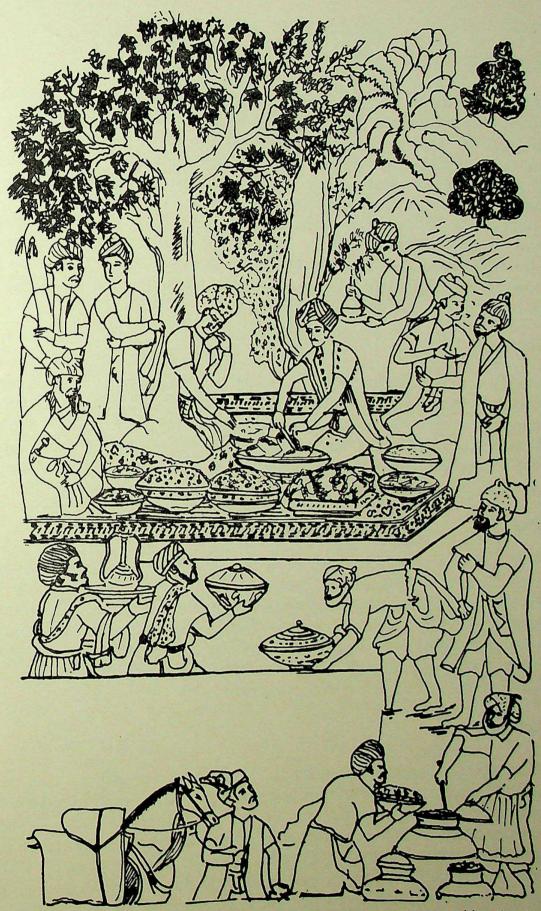


Fig. 3 Bābur enjoying a feast given by the Mirzās at Herāt. Cooks are busy cooking in the foreground and the attendants are carrying food. Bābur is cutting a goose.

#### 6

### TOOLS AND TECHNIQUES

### (i) Sketch

The themes of the miniatures in the  $B\bar{a}bur-n\bar{a}m\bar{a}$ , as in all imperial Mughal paintings, were determined by the Emperor himself who entrusted the work to one or many artists. The sketch was prepared by the master artist on the smooth surface of a paper in light-blue or reddish-brown ink. This primary sketch was drawn in soft lines, suggesting only the outlines of the figures. These were later corrected, and bold, accurate hard lines were drawn. A thin coat of white pigment was applied to obliterate the incorrect lines and those remaining lines were redrawn in dark pigment with a fine brush. A few unfinished paintings in the Moscow  $B\bar{a}bur-n\bar{a}m\bar{a}$  (published in 1960 by the State Fine Arts Publishing House, Moscow) reveal the progress from bare paper to thin outlining in black or reddish-brown ink and to the various stages of colouring.

### (ii) Tracing

Once the master sketch was approved by the Emperor, it was copied or pounced (traced) in the workshop ( $k\bar{a}rkh\bar{a}n\bar{a}s$ ). Tracing was done with a piece of transparent deer skin, which was placed on top of the drawing, the outlines of which were then pierced. The stencil was then placed on fresh paper and black pigment was passed through the pinholes leaving soft outlines which were later reinforced by brush (fig. 4).

# (iii) Paper

A few sheets of paper were pasted upon one another to give a substantial thickness to the material before painting. Illustrations for manuscripts were painted on single sheets and later pasted on to the loose folios of the manuscripts, as bound manuscripts could not accommodate thicker sheets without loosing their shape on the open side. Highly polished, hard and creamy paper was used, smoothend with rounded agate; it was composed of cloth fibres (rarely of silk fibres) and varied greatly in thickness and texture.

# (iv) Colours

Water colours alone were employed. Minerals for producing colours, such as malachite (green) and lapis lazuli (blue), were ground in a mortar and then sorted grain by grain according to purity and brilliance. The powder was bound with either water-based Arabic gum or glue. Other pigments were made from earth, insects, animal matter and metals. To make metallic pigments, gold, silver and copper were pounded into foil between sheets of leather, after which the foil was ground with rough salt in a mortar. The salt was washed out with water, leaving behind pure metal powder. Gold dust, though not a soluble colour, was frequently used in lavish quantities.

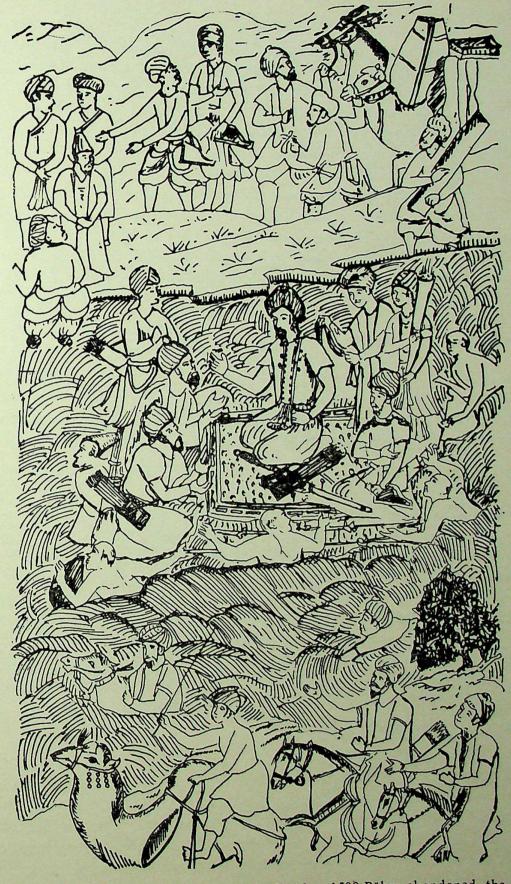


Fig. 4 Bābur crossing a river seated on a raft. In May, 1508 Bābur abondoned the invasion of Hindustan. He visited Lamghānāt which borders the land inhabited by kāfirs, who had resisted conversion to Islam. Here he crossed a river seated on a raft for the first time. Soldiers are armed with weapons.

8

### (v) Colouring

The pigments were first blended and then laid flat on the paper. No consideration was made of tonality, instead, contrasting colours were used; this method best expressed the Mughal appreciation of minute details and love for ornamentation. The floors, carpets, domes, arms and armour, costumes, utensils, etc., were depicted with profuse embellishments. The draperies, however, were left comparatively plain. Three-dimensional effects were achieved by two methods of shading: an original colour was spread on the surface, then darker colours were applied or the shading pigment was gradually mixed with the original pigment while still wet. The ground colours were not necessarily light but were lighter than those to be applied in subsequent fillings. Human figures were painted first, animal figures next, and the background was coloured last of all. After colouring and shading, the outlines of the objects, as delineated in the primary sketch, were reconfirmed in a darker tone and the figures given a well finished form.

### (vi) Burnishing

Gold highlights were the last step before burnishing. The burnishing process involved laying the miniature face down on a hard smooth surface and gently and firmly stroking it with a polished piece of agate. Burnishing provided protective hardening and gave an overall unity of texture to the painting.

# (vii) Calligraphy

In one of the illustrations in the British Museum  $B\bar{a}bur-n\bar{a}m\bar{a}$ , it is recorded that the artist  $R\bar{a}m$   $D\bar{a}s$  worked on it for fifty days. One folio, on an average, took three months to complete. After the painters had finished, the picture was passed on to other artists for trimming. The painting was then pasted on the manuscript leaves at the appropriate place in relation to the text. The miniatures of the  $B\bar{a}bur-n\bar{a}m\bar{a}$  are without  $h\bar{a}shiy\bar{a}s$  (borders) (fig. 5), though most Mughal miniatures have beautiful margins. The name of the artist, when found, is in the lower part of the picture. It is not an autograph but the work of a calligrapher (naqshānavīsa) and indicated the master artist under whose supervision the painting was executed by the combined efforts of several artists.

# Style

The artists who illustrated the Bābur-nāmā included native Indians as well as those employed from Iran. One, therefore, finds a mixture of elements of the Iranian School of Bihzād and pre-Mughal Indian tradition. The Persian influence is visible in the deep blue skies, hilly landscapes with rivers, profuse bird and animal life, the method of dividing the picture plane into many small spaces (fig. 2), bright colours and lavish use of gold pigment and 'Persian blue'. However, the figures' hand gestures, their elongated eyes, the crowded animation and rhythmic figures of the animals, especially the elephants, are reminiscent of native Indian

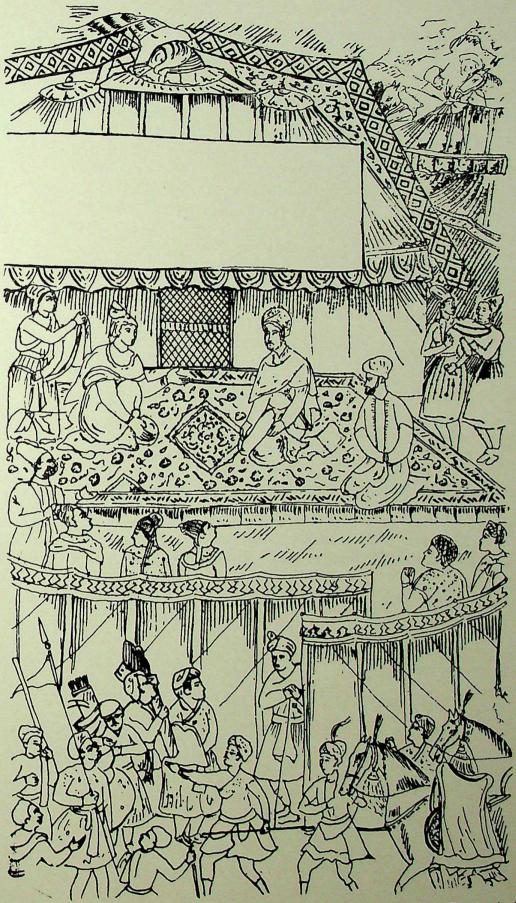


Fig. 5 Bābur meeting Khânzādā Begum, Mehr Bānū Begum and other ladies. The painting is by Mansūr. Here he depicts the reunion of Bābur with his sister Khānzādā Begum who was forcibly married to Shaibānī Khān, the enemy of Bābur. Outside the kanāt are soldiers armed with spears, swords and bows and arrows guarding the tent.

art styles. The Bābur-nāmā paintings also reveal some Western influence, the most significant being the introduction of a type of perspective (fig. 4). Though still in its initial stage, it is evident in the three-dimensional effect in the placement of objects and figures and the reduction of scale as the eyes move towards the horizon. The detailed naturalism in pictures, which are colourful, meticulously drawn and pulsating with life, is apparent from the very beginning of the history of

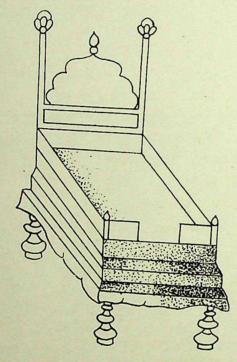


Fig. 6 Aurang or throne used as a sign of royalty. It was placed in the central hall where the king held his court. It was portable. It consisted of a rectangular pavilion embellished with a railing all around. The seat has an extra support for the back (From the Bābur-nāmā).

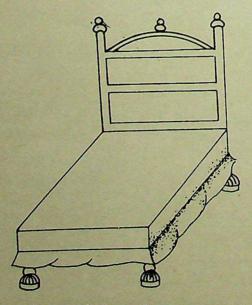


Fig. 7 Royal chair consisting of four short legs made of round spheres. It is without arms and has a back seat. It was invariably studded with jewels or semi-precious stones (From the Tārīkh-i-khāndān-i-Timūriā).

The Bābur-nāmā

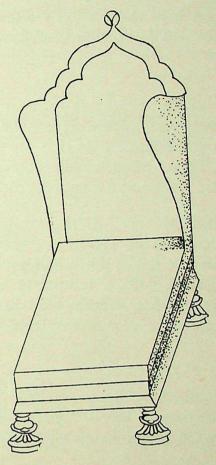


Fig. 8 Royal chair consisting of a square seat supported on four small and round legs. It is not armed. It was made of wood and was mostly embellished with precious and semi-precious stones (after S.P. Verma).

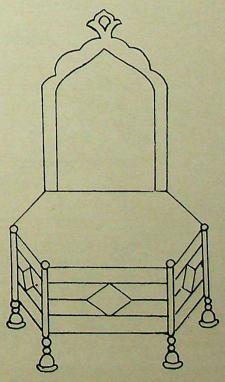


Fig. 9 Aurang or throne made of wood. It comprises six ornamental legs with a railing on its sides and a high back (after S.P. Verma).

Mughal painting in India and could have been influenced by Babur's deep concern for man and nature and his penchant for details, so clearly seen in his writing.

### Babur's early life

At Babur's birth on 15 February, 1483 in Ferghana (now a state in Soviet Turkestan), one of the *khojās* (the pious people) gave him the Arab name Zahīr-uddīn Muhammad (Defender of Faith), but the family, finding it too long, called him 'Babur', which means 'panther' in Turkī. Bābur's father, Umar Shaikh Mirzā, was a Timūrid Turk, his mother, Qutlug Khānum, a Chagataī Mongol.

As seats of artistic activity, Ferghanā, and its capital Andijān, were not comparable, even remotely, with Samarkand or Herāt. Ferghanā was on the edge of a civilized world, bordering nomadic lands, but it had good soil, possessed mines of iron and turquoise and was blessed with a temperate and invigorating climate. Bābur was only eleven years and four months old when his father died in an accident in June, 1494 and he became the ruler of Ferghanā.

### His military pursuits

Bābur's early military life was difficult; twice he conquered Samarkand, the land of his ancestral dominion, but each time he lost it shortly afterwards. After these unsuccessful attempts, spanning ten years, he left his native Ferghana, and

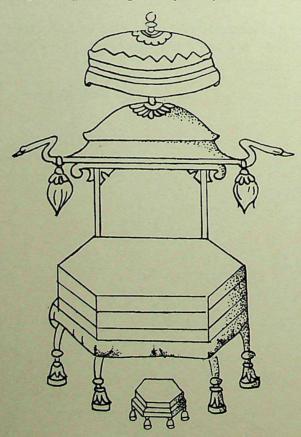


Fig. 10 Aurang or throne consisting of six small and ornamental legs and a railing. The high back seat is surmounted by a royal umbrella (chhatra). A similar small piece called sandali (footstool) was placed in front to step up to the main seat (after S.P. Verma).

The Bābur-nāmā

in 1504 at the age of twenty-one, he crossed the Hindūkush and occupied Kābul. From Kābul, he again tried to recover Samarkand in 1511; this attempt was successful but he lost the territory in the following year.

### Towards India

After his failure to hold Samarkand, Babur's interests turned to India, the wealth of which he had heard much. Crossing the river Indus, he made four successive

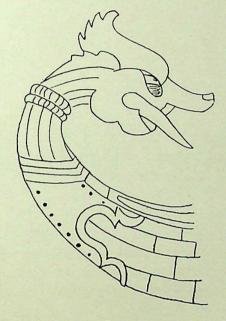


Fig. 11 End of a boat. Boats were of various shapes and sizes and were used for siege, travels and trade. The two ends were curved upwards. The front end is shaped like a dragon, a Chinese influence.

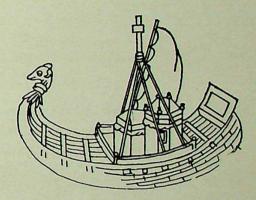


Fig. 12 Boat, hemispherical, made of seasoned wood, one end is shaped like a bird.

The mast is also visible. The boatman rowed this boat with a paddle.

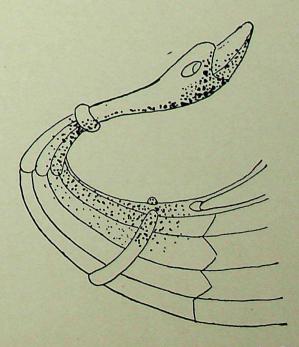


Fig. 13 End of a boat. It is shaped like the neck of a swan.

attacks on the Punjab. The political condition of India at that time was favourable to Babur as there were grievances among the nobles against the ruler of Delhi,

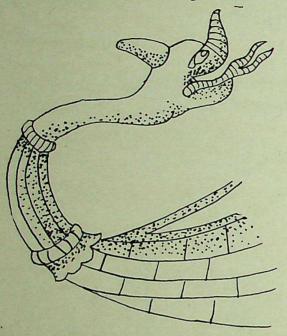


Fig. 14 End of a boat used in the battle. It was very large with its one end shaped like a dragon, the other end served as a platform. It shows some Chinese influence (after S.P. Verma).

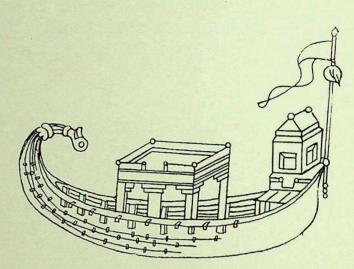


Fig. 15 A big boat mainly used for an assembly. A square platform resting on four legs is placed in the middle. One end is curved like the neck of a bird and the other end carries a flag.

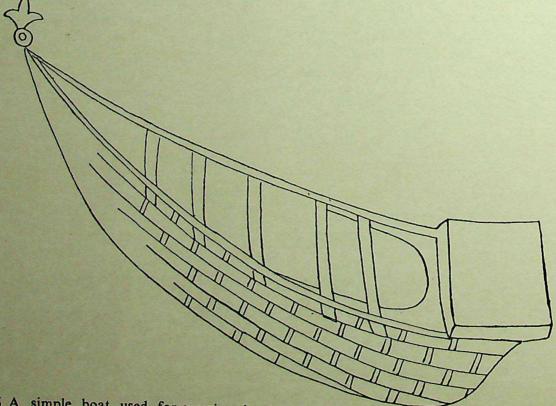


Fig. 16 A simple boat used for crossing the river. Bābur had employed a number of such boats while crossing the rivers in India. It has a square platform at one end. From a distance it looks like a leaf.

The Bābur-nāmā

Sultān Ibrāhīm Lodī (r. 1517-26). Bābur's fifth invasion of India took place in 1525 at the invitation of Daulat Khān Lodī, the powerful governor of the Punjab and Ālam Khān, an uncle of the Sultān. Both these men, however, turned against Bābur and he first had to fight them. Daulat Khān was defeated and the Punjab was easily occupied. Bābur then marched to Delhi and, after four more battles, became the master of Hindustan in 1526. Bābur's son, Prince Humāyūn, then occupied Agra, the second most important city in Hindustan, where he attained a vast treasure, including a very large diamond identified by tradition as 'Koh-inoor' diamond. To celebrate his victory, he gave a silver coin to every man and woman in Kābul.

### The Emperor of Hindustan

In 1527, Bābur had to face the militant Rājpūts led by Rāṇā Sāngā, the brave ruler of Rajasthan. At Khanuā, near Fatehpur Sīkrī (in Agra), the two armies fought a fearful battle. Bābur encouraged his men with a stirring speech, saying that 'it was far better to die with honour than to live with infamy'. He broke all the wine cups and made a vow that he would never drink again. The Mughals again made a brave charge; the Rājputs were repulsed and Rāṇā Sāngā fled from the battlefield, dying some time after.

Bābur's position was by then very secure. In 1528, he conquered Chanderi, a well-known fort in Mālwā, defeated and killed its ruler Medinī Rāi and put the whole garrison to the sword. In 1529, Bābur advanced towards Bihar, where the Afghans, under İbrāhīm Lodī's brother Mahmūd Lodī, were still in power. In a battle near Patna on the banks of the river Ghāgrā, the Afghans were defeated and Bābur became the undisputed emperor of India.

#### His wine

'O Believers! surely wine and games of chance and statues and the divining arrows are an abomination of Satan's work. Avoid them, that ye may prosper,' says the Holy Qurān. But Gibbon is equally justified when he remarked that the wines of Shirāz always have prevailed over the laws of the Prophet. Bābur was no exception. After strictly eschewing wine and other intoxicants until he was nearly thirty years of age, he began to drink heavily until his vow of abstinence made in his forty-fourth year. He kept his vow and never again touched wine, however, he began taking bhāng (marijuana), mājun (hashish) and opium.

#### His women

After the manner of his time, Bābur married eight wives and kept two Circassian concubines presented to him by Shāh Tahmāsp of Persia in 1526. By his legitimate spuoses he had seventeen children, of whom nine survived. His favourite wives were Māhim Begum, whom he married in 1507 and who bore Bābur's successor Humāyūn; and Gulrukh Begum, whom he married in 1508.

#### As a chronicler

Bābur's portrait shows him as a man with finely articulated features, a long face, a slight tapered beard and a short moustache that accentuated the delicate irony of his smile (fig. 1). Bābur was strong, well-built and an excellent military man. He was an accomplished poet in Persian and in his native Turkī and was master of a pure and elegant style in prose and verse. He wrote a Divān (collection) of poems sent to Pulād Sultān in 1519; a diary; the Mubin, a treatise of Muslim law in two thousand lines of Turkī verse composed in 1522 for the benefit of his son Kāmrān; a treatise of prosody written in 1524; poems written in Hindustani; the Bābur-nāmā; and the Wālidiyyāhrisālā, a metered translation of Khwājā Obaidullāh Arārī's Parental Tract.

It is a delight that Bābur could find time and mind to write his memoirs while he was planning for battles, on the march, drinking wine among friends and dreaming of an empire. His claim in Indian history as an empire builder is great but his claim as a chronicler is greater. As a piece of literature the  $B\bar{a}bur-n\bar{a}m\bar{a}$  is unique and as a historical text of the period it is unrivalled (figs. 17-22).

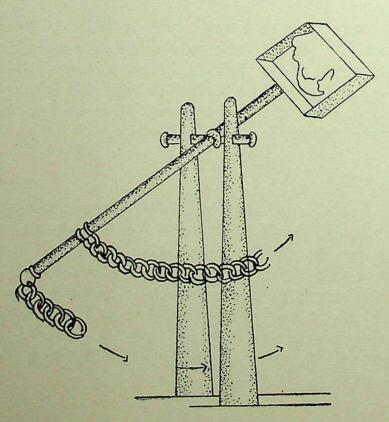


Fig. 17 Manjāniq or catapult, a mechanical device to discharge darts and stones based on the principle of levers. Bābur has described various methods of discharging stone-missiles i.e., hurled by hand, catapults, mortars and matchlocks. Only one specimen of manjaniq is depicted in the Tārīkh-i-khāndāna-i-Timūriā. It comprises a long pole with a heavy square wooden case at the upper end and two long chains at the lower. The pole rested on a horizontal bar which was supported by two vertical posts (after S.P. Verma).

17

The Bābur-nāmā

#### As a soldier

Babur was a soldier whose life was spent in constant battles; a general whose indomitable spirit refused to be broken by reverses however serious; a lover of nature who described birds, animals, plants and flowers with lively interest; a man of letters whose intellect could not be lulled by military engagements; an autobiographer who was always anxious to share with his readers the sorrows and joys of his eventful career; and, above all, the founder of an empire which, with

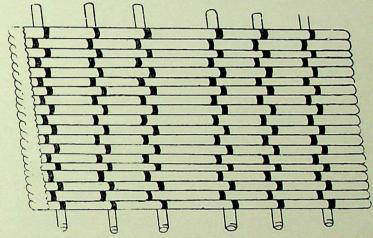


Fig. 18 Raft called jālā or jhālā. It was a flat plane made of bamboo and wooden poles fastened together like a mat. Under it many skin bags (jālāhs), distended with air, were tied. The platform could accommodate eight persons. It was used for crossing small rivers (after S.P. Verma).

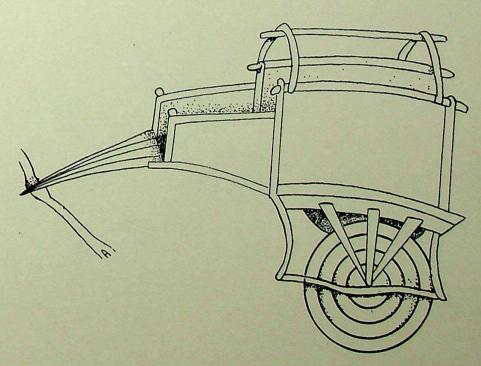


Fig. 19 Carriage (bahl), used as conveyance, was driven by the bullocks. Those with solid wheels were designed to carry cannons. The present carriage has spoked wheels and is provided with a domed conopy supported on four cylindrical poles (after S.P. Verma).

fluctuating fortunes, continued until 1857. Babur's resolution to stay in the strange land of Hindustan among a hostile people and with discontented soldiers was the most heroic act of his career. Inspite of difficulties in adjusting himself to India's teeming millions, its wide rivers and rolling plains, its unfamiliar language, customs and traditions, its 'scorching heat, violent winds and suffocating dust', he realised that there was little need to look back. The army gradually forgot its grievances, the Mughals merged into Indian life and the tide of Indian opinion turned in their favour.

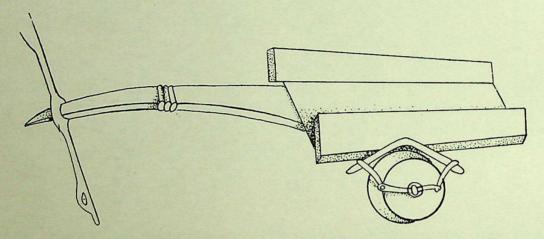


Fig. 20 Gun-carriage used to carry small cannons. It has a pair of strong solid wheels and a rectangular seat supported by side planks. It was also sometimes employed to carry tamed leopards during hunting expeditions (after S.P. Verma).

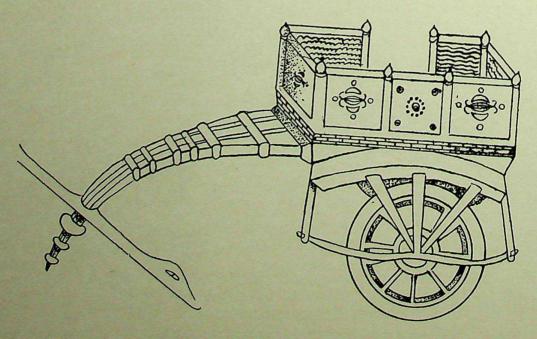


Fig. 21 Carriage comprising two spoked wheels and a rectangular seat profusely embellished. It has no shade. The whole structure was supported on a horizontal axle (after S. P. Verma).

The Bābur-nāmā

### His shortcomings

Bābur was, however, a poor administrator; he could not consolidate his conquests nor organize his administration. There were no regular courts or uniform laws. He left much of his work incomplete and for this, his son and successor Humāyūn faced many troubles.

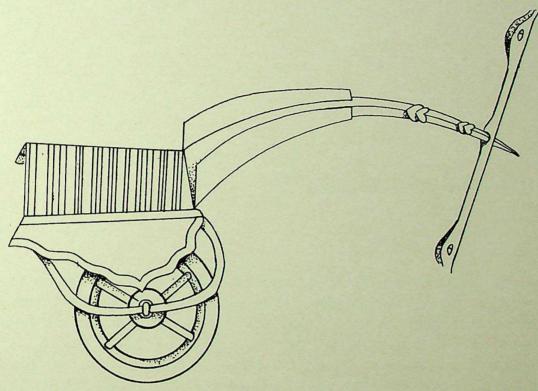


Fig. 22 Carriage supported on a horizontal axle provided with spoked wheels on either sides. It was comfortable to sit but has no canopy. It was drawn by a pair of bullocks (after S. P. Verma).

#### The end

In August, 1530, news came to Bābur in Agra that his heir-apparent Humāyūn, then at Sambhal, had a violent attack of fever. He was brought by water to Agra and when the disease baffled the doctors, Bābur resolved to practice the rite of intercession and devotion of a suppliant's most valued possession in exchange for a sick man's life. Rejecting counsel to offer Koh-i-noor for pious uses, he resolved to supplicate for the acceptance of his own life. He moved round Humāyūn's bed praying, 'I, who am Bābur, give my life and being for Humāyūn'. Gul Badan records that Bābur fell ill on that very day and Humāyūn recovered. Confined to bed for two months, Bābur died on Jumāda 1.6 937 A.H. (26 December, 1530). He was first buried at Ārāmbāgh in Agra but his remains were later moved to Kābul and buried in a beautiful garden by the side of a small stream.

Zahir-ud-dīn Muhammad Bābur was undoubtedly one of the most illustrious men of his age. He was fond of field and warlike sports, was an excellent swordsman and a skilful archer. His personal courage was conspicuous during his whole life. He was never broken by discomfiture. There are only few who have achieved such glorious conquests and have suffered such decisive defeats and still fewer who rank higher than Bābur in genius and accomplishments.

2

# Bows, Arrows and Quivers

Khalīfā Wālid was the first Muhammadan who invaded India in 710 A.D. His general Muhammad Kāsim attacked Sindh with  $manj\bar{a}niqs$  (fig. 17) and catapults and captured the town.\(^1\) The Arabs, however, did not hold their conquest for more than 36 years. The next invasion was from Afghanistan. Subuktagīn attacked India and defeated Jaipāl, the Indian King. His son Mahmūd Ghaznī met the combined forces of the  $r\bar{a}j\bar{a}s$  of Northern India under the command of Ānandpāl, in great plain near Peshawar. The Sultān, having entrenched himself, sent 6000 archers to the front who were met by 3000 Indians armed with spears, swords and bows and arrows who forced their way into the Muhammadan cavalry and nearly defeated them, when the elephant of Ānandpāl took fright at the flight of arrows and the effects of the  $napth\bar{a}^2$  balls, and caused the Indians to fly in panic.\(^3\)

Indian bows and arrows, which had created havoc earlier, had lost their glory in the 11th-12th centuries A.D. both in trade and in the battlefield and its place was taken over by the Turkish and Persian bows.<sup>4</sup> A well equipped warrior of this period, if we are to believe the Persian literature, had to provide himself with "an Indian sword, a Tartar lance, an Afghani horse and a Persian bow." Persia and Afghanistan had specialised in the production of weapons of all kinds including bows and arrows and exported them to India and other neighbouring countries.

The disciplined Mongol army who invaded Indian frontier in 1221 A.D. under the command of Chengiz Khan had learnt the use of manjaniqs<sup>6</sup> (fig. 17),

napthā and horse-archery<sup>7</sup> (figs. 200, 203, 208) and therewith paralysing large cities and reducing inaccessible forts to dust. The Turkish Sultāns of Delhi, trained in the same line, alone could check the onslaught and save India from frequent Mongol invasions. In the sphere of tactics, the Turks, who now became the masters of India, were quick to bring India on a par with Central Asian powers. The pāiks (foot-soldiers) were replaced by the sawārān-i-muqatalā (mounted archers) and mobility and striking force, rather than heaviness and crushing strength, came to be regarded as the basis of military organization. Thereafter, there was no looking back and throughout the Delhi Sultanate (1206-1526 A.D.) and Mughal (1526-1857 A.D.) periods the bows and arrows were held in the highest esteem.

In 1502 A.D. Bābur tried to capture Andijān. (fig. 1). In the midnight when everything was set ready, there rose a war-cry and a sound of drums from enemy's side. Bābur's soldiers were startled and without ascertaining the facts, each soldier took to his heels. Says Bābur, "There was no time for me to get at them: I went straight for the enemy. Only Mīr Shāh Quchin and Bābā Sherzād and Nāsir Dost sprang forward; we four excepted, every man set his face for flight. I had gone a little way forward, when the enemy rode rapidly up, flung out his war-cry and poured arrows on us. One man, on a horse with a starred forehead, came close to me; I shot at it; it rolled over and died. They made a little as if to retire......Back the four of us went to shoot arrows at the foe......Back I went with my three and kept the foe in check with our arrows". 10

In 1506 A.D. when Bābur conquered Kābul (fig. 237), one evening "a Mughul, I recognized for one of my own servants, drew his bow and aimed at my face from a place on the roof as near me as a gate-ward stands to a gate. People on all sides shouted " $H\bar{a}i$ !  $H\bar{a}i$ ! it is the  $P\bar{a}dsh\bar{a}h$ ". He changed his aim, shot off his arrow and ran away." Bābur had a hair breadth's escape.

In 1507 A.D. at Kābul itself the rebels attacked.<sup>12</sup> Bābur had a narrow escape but "an arrow stuck in Qāsim Bēg's forehead; another struck Ghurī Barlās above the eyebrow and came out (gachar) above his cheek."<sup>13</sup>

During his second start for Hindustan, Babur marched out of Kabul in September, 1507 A.D. (first Jumāda, A.H. 913) and was to climb the mountain when the Afghans challenged and then, writes Babur, "I ordered our men to move along the mountain-side, each man from where he had dismounted; off they set at the gallop up every ridge and every valley on the saddle. The Afghans stood a while, but could not let even one arrow fly, and betook themselves to flight. While I was on the mountain during the pursuit I shot one in the hand as he was running back below me. That arrow-stricken man and a few others were brought in; some were put to death by impalement, as an example."

On the 2nd January, 1526 A.D., Bābur crossed Beas and attacked Fort Milāwat and on the 6th January the fort was captured. "Early next morning

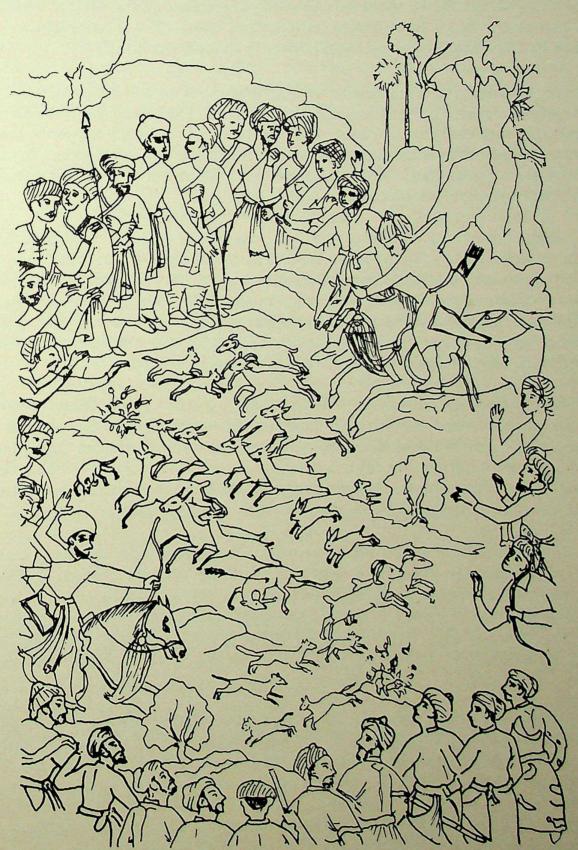


Fig. 23 This painting by Tulsī who specialised in drawing animals, shows a hunting scene in Afghanistan. Bābur, riding a horse, is shooting arrows at the deer.

(7th January, 1526 A.D.), Muhammad, Ahmadī Sl. Junaid, Abdul Azīz, Muhammad Alī Jang-jang and Qutulug-qādam were ordered to enter the fort and take possession of all effects. As there was much disturbance at the Gate, I shot off a few arrows by way of chastisement. Humāyūn's story-teller (quissā-khwān) was struck by the arrow of his destiny and at once surrendered his life." 18

The first battle of Panipat was fought between Babur and Ibrāhīm Lodī, the last Afghan ruler, on 21st April, 1526 A.D.<sup>19</sup> The Indian force heavily outnumbering that of Bābur's, consisted of one thousand armoured elephants, twenty thousand well-equipped state cavalry, twenty thousand baronial levies mounted on country horses and thirty thousand foot-soldiers armed with pikes, swords, bows and arrows.<sup>20</sup>

Bābur's army (fig. 291) was very well trained in making lightening raids, night attacks and in laying ambushes.<sup>21</sup> His tactics were to first disorganise the enemy by archery shots then charge with his guns.<sup>22</sup> The Muslim troopers were fully armour-clad and used bows, made of steel or of two horns joined together with a metal clasp, shooting arrows at longer ranges. Because of their greater penetrating power, as some of them could pierce an elephant hide, these arrows had deadly effect on the Indian soldiers.

At daybreak the Afghan army came straight on from Delhi. Bābur's flanking parties wheeled round and attacked the enemy in the rear and he ordered his gunners to open fire, and then the main attacking force of Afghans found themselves exposed to arrows on either flank and to bullets in front.<sup>23</sup> The battle lasted till the afternoon when an arrow-shot killed Ibrāhīm Lodī who is acclaimed to be the only monarch of India who died fighting.

In the battle of Panipat, Bābur records, "Our orders were for the turning-parties (tulghumā) to wheel from right and left to the enemy's rear to discharge arrows and to engage in the fight; and for the right and left (wings) to advance and join battle with him. The turning-parties wheeled round and began to rain arrows down. Mahdī Khwājā was the first of the left to engage; he was faced by a troop having an elephant with it; his men's flight of arrows forced it to retire."<sup>24</sup>

Panipat, no doubt, was a decisive victory but Bābur had to face another formidable enemy, Rāṇā Sāngā,25 the Rājput chief and the ruler of Rajasthan. The deadly conflict began at about half-past nine in the morning of the 17th March, 1527 A.D. at Khānuā and for a considerable period it appeared that the conflict would terminate indecisively. But unfortatunately the Rāṇā was severely wounded by an arrow and fainted. He was quickly removed from the battle-field to Baswā, a small town nearby, and when he regained his consciousness after two hours, he learnt that the battle was lost.

Bows, Arrows and Quivers

In one painting, the scene of the first battle of Panipat has been painted with its minute details (fig. 291). Here Babur protects his vanguard by rows of 700 movable carts which were tied together by ropes of hides. Small breast-plates of iron are arranged in succession in between the wagons to shield the musketeers. Behind the artillery is stationed the advance-guard. Babur himself is seen in the centre, flanked by his valiant soldiers. Some of the soldiers riding the horses are carrying bows and arrows. The bows are kept inside the bow-cases and a quiver, filled with arrows, is hung on the right shoulder of each soldier.<sup>26</sup>

In one illustrated leaf of the  $B\bar{a}bur$ - $n\bar{a}m\bar{a}$ , a horse-archer has dismounted his horse and sitting on the ground, he has stretched the bowstring to its full length, with his composite bow, the archer seems to have checked the whole line of the enemy. The arrow-head is almost touching the grip and a quiver, packed with arrows, is tied at the right waist.<sup>27</sup>

The last mention of arrows being used during Bābur's time is for the punishment of the *Mundahirs* in the beginning of 1530 A.D. On his way from Lahore to Agra, Bābur reached Sirhind where he received a complaint about one Mohan Mundahir Rājput who was proving a nuisance. Bābur sent from Sirhind Tarsan Bahādur and Naurang Beg with 6000 horses and many elephants. The rebel's army was defeated. About 1000 men, women and children were made prisoners; there was a great slaughter, and a pillar of heads was raised. Mohan was captured and later on was buried to the waist and shot to death with arrows.<sup>28</sup>

#### BOW

During the Mughal period, the bow in general was called kamāna or kamān (figs. 24-28). The crossbow was named as charkhā.

### Parts of the bow

The simplest and commonest kind of bow is a piece of wood tapering in both directions from the middle and having the ends connected by a string shorter than the wood (fig. 24)<sup>29</sup>. The side of the bow away from the archer is called the 'back' and is generally more rounded. The shaft is called the 'stave' and its two curved sides are called 'limbs'. The middle of the bow is known as the 'grip' or the 'handle', and the ends, the 'tips'.<sup>30</sup> The latter are frequently made of horn. The 'notches' for the string are termed 'nocks'.<sup>31</sup>

# Self bow or simple bow

A bow made of a single piece of wood or bamboo is called a 'self' or a 'simple' bow (fig. 24). These are very easily available, are easy to make, and

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very often are quite effective. As a rule, the handle of the bow is so placed that the arrow is held very close to the middle of the length. Generally these bows were made of cane or wood but those made of bamboo, which grows in autumn

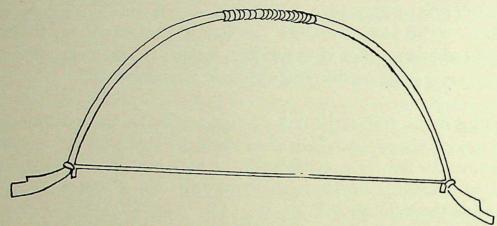


Fig. 24 Bow (kamathā) with a single hemispherical curve. The two nocks are curved upwards. It was made of wood, bamboo or cane with the string of cotton or silk thread or the skin of the animals. It was used by the common soldiers (From an actual specimen, National Museum, New Delhi)

and which is cut and taken at that time, were the best of all. It was called kamathā and was a common bow of India (fig. 25).

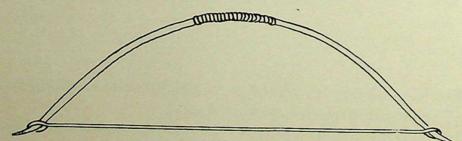


Fig. 25 Kamathā bow made of a single piece of wood, bamboo or cane. It was a self or simple bow. It was very easy to make and was often quite effective (From an actual specimen, National Museum, New Delhi)

# Composite bows

The composite bow, at its best, is, in fact, superior to all forms. The composite bow is essentially, in historic times, the Asiatic form:<sup>33</sup> throughout the whole range of Asia it has superseded the older wooden bow (fig. 26). In the middle ages it penetrated from Turkey far into the western portion of the Southern Europe and reached its highest development in Persia<sup>34</sup> and India (fig. 26).

The Turkish bows were small and light and had more powers than any others. Says G.C. Stone, "Their (Turkish) bows will send the light arrows

intended for them further than any others and are much smaller and lighter than any others of anything like equal power. They are also very durable and many over one hundred years old are still in serviceable condition. The best Turkish bows are generally signed and dated".<sup>35</sup>

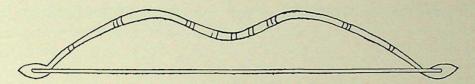


Fig. 26 Bow, double curved, also called easy bow (narm-dik). This bow being small was preferred by the cavalrymen who could conveniently carry it with other arms. The stave is beautifully ornamented (From the Bābur-nāmā)

Describing his experiences at Farghanā in 1500 A.D. Bābur says, "That day in shooting wager (aug auchida) I made a good shot with a slur-bow (fig. 27), at a Centurion's horse.<sup>36</sup> It died at once (aug bardī) with the arrow (aug bīla)".<sup>37</sup>

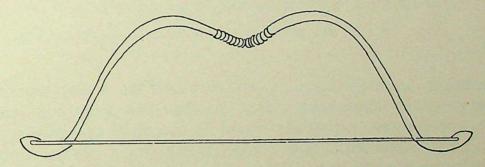


Fig. 27 Small slur bow (taksha-kamān), preferred by the cavaliers. It was shaped in a double curve and had a straight string. It was carried in qirbān (From the Akbar-nāmā, Chester Beatly Collection, Dublin)

The special categories of composite bows are mentioned in the *Bābur-nāmā*. Writing his memoirs of the 29th December, 1519 A.D. (Friday), Bābur describes his hunting experience with the deer. He says, "I had not shot an arrow since my hand was hurt; now with an easy-bow (narm-dik),<sup>38</sup> I shot a deer in the shoulder, the arrow going in to the half up the feather." Some manuscripts write *lāzim dik* which might be read to mean such a bow as his disablement allowed to be used.

These Turkish bows had to be maintained very carefully since the Indian climate did not suit them well. About the rain of Hindustan Bābur says, "While it rains and through the rains, the air is remarkably fine, not to be surpassed for healthiness and charm. The fault is that the air becomes very soft and damp. A bow, of those (Transoxanian) countries after going through the rains in Hindustan, may not be drawn even; it is ruined; not only the bow, everything is

affected, armour, book, cloth and utensils—all."<sup>40</sup> In the winter of 1530 A.D., Bābur's forces under the command of Alī Qulī of Hamadān were sent to crush the rebels. In the early morning of January "the cold was such that the archers could not pull their bows".<sup>41</sup> The inability to 'pull' the bows was not due to the feebleness in the men but due to the difficulty to the hardening of sinews in their composite Turkish bows, which prevented the archers from bending the bows for stringing.<sup>42</sup>

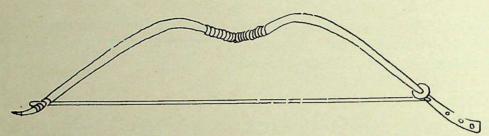


Fig. 28 Bow, double curved, preferred by the cavaliers. The two knocks have several holes so that the string could be moved up and down and fastened to a convenient hole (Based on an actual specimen, National Museum, New Delhi)

### Material

A question generally asked is why even after the development of horn and composite bows, the simple bows made of bamboo, cane and wood were so highly extolled. The answer is partially found in the elastic properties of bamboo.<sup>43</sup> Secondly, a highly finished horn or composite bow would always be an expensive weapon, whereas bamboo bows, though comparatively less effective, would be more easily come by.<sup>44</sup> The string in such bows in permanently fixed at both ends. The stave is saturated with oil and bent to the required shape over fire. The string is then finally fixed. But this practice of keeping the bow permanently strung is very detrimental to the cast of the bows.<sup>45</sup>

### Bows of horn

Every horn bow, as a rule, is a composite bow. In making bow of horn, whether of a pair of horns or of a single large horn, like that of a buffalo, split up to make the two limbs, the bow when made and unstrung would naturally take the shape of the horns when growing on the animal's head. It would at once be seen that the only way to get any spring from the bow would be to bend them the reverse way of the natural curve. Thus we have the reflex bows.<sup>46</sup>

Throughout the Mughal period the Turkish and Persian bows had dominated the Indian battlefield.<sup>47</sup> Says Egerton, "The bows and arrows of Persia are celebrated throughout the East. The concave side of the bow (convex when strung) is lined with several strings of thick catgut, to give elasticity and force. The

material of which the belly of a Persian bow is made is buffalo or wild goat's horn, jet black or some hard wood little inferior in toughness, which serves for the back. The extreme points are fashioned to resemble a snake's head, the loops of cord having appearance of being held within its extended jaws. The horn is left plain, while the wooden back is decorated with rich arabesques. Birds, flowers and fruits are represented on its surface in varied colours intermingled with gilding and the grip of the bow is marked by broad bands of the same metal separated by figures of flower and fruit."<sup>48</sup>

The necessity of pulling back the bow to the reverse curve, each time the weapon was used, would soon suggest the desirability of keeping it 'strung' while in use, so as to save some part of this labour, and the rapid deterioration of the 'cast', if the horn bows were permanently kept recurved, would quickly lead to the practice of unstringing it when laid aside for the time.<sup>49</sup>

The horn bow is made of three substances:

- 1. Horn, being a compressible material for the belly.
- 2. Wood, as a stiffener, specially for the centre, and for the ears.
- 3. Sinews, an elastic stretchable material for the back.50

### Bows of steel

All over the world experiments with steel as a bow material have been made through the ages but the Indians were, most probably, the first to overcome the problems presented by steel, and produced a weapon. Though it was, in its range and cast, not superior to the composite bow, its predecessor, yet was a workable weapon and was popular throughout the Mughal regime.<sup>51</sup> Properly greased, a steel bow would have emerged better from storage than any other type of bow and could have been used immediately.

The recoil of the steel bow, or indeed of the bow made of any metal, is so slow in comparison with that obtained from any other material, that a bow which would give the requisite swiftness of flight would be beyond the power of the strongest man to draw. Metal bows are, therefore, not applauded so much as the wooden or bamboo bows are, <sup>52</sup> and their use during Bābur's time seems to have been restricted to a limited few. However, during Shāh Jahān's <sup>53</sup> time and afterwards <sup>54</sup> these became once again popular. Several of the Mughal miniature paintings show horse-archers in battle-scenes using this bow. <sup>55</sup> There is a long tapestry of the Mughal period in the Victoria and Albert Museum, London, which shows the use of steel bows in the battlefield.

The steel bows were either of one single piece or more (upto five) pieces screwed or riveted together. The grip was generally of wood, horn, leather or ivory.<sup>56</sup> These were kept in the well maintained armouries.

30

#### Measurement

The Mughal bow, as a rule, was four feet long.<sup>57</sup> The steel bows measured from three feet, four inches to four feet and one inch.

### Weight and draw-weight

The actual weight of a Mughal bow was about a pound though a few bows weigh as much as four pounds. 58 Describing about Farīdum-i-husain Mirzā, a famous archer of Kabul, in 1505 A.D., Bābur refers to his cross-bow as 40 batmans. 59 The batman is a Turkish weight of 13 pounds (according to Meninsky) or 15 pounds (according to Wollaston). The weight seems likely to refer to the strength demanded for rounding the bow<sup>60</sup> i.e., as much strength as to lift 40 batmans. Rounding and bending might stand for stringing or drawing. The meaning can hardly be one of the weight of the cross-bow itself.<sup>61</sup> It may refer to the draw-weight. During the Mughal period and till today the bow is not weighed in the scale. Its draw-weight is measured with the help of a stone or iron weight. 62 It is termed as tanka. A stone or metallic weight of about 25 seers (app. 23 kilograms) is hung in the string. When the string is fully drawn, it is taken to be the draw-weight of the bow. Thus we have bows of 1½ tankas, 2½ tankas, 4½ tānkas, etc. The same system of finding out the draw-weight of a bow has been recorded by Malik Muhammad Jayasī, a Hindi poet and contemporary of Babur.63

# Bowstring

As per their depiction in the  $B\bar{a}bur-n\bar{a}m\bar{a}$  illustrations, the bowstring seems to have been made of silk threads, cotton threads or some good fibre. The string was three-or-four-stranded, round, smooth and of even size throughout, gradually thickening towards the ends so as to be strong enough for the eye and the loop. The thickness was regulated by the strength of the bow. A thin string certainly gave a better cast, but it was not recommended to use too thin a string with a strong bow, as it might break and then the bow would also probably break. A string breaking at either horn was also not advisable.  $^{64}$ 

Every bowstring had an 'eye' spliced on it at one end which was intended to go over the upper horn of the bow, and a loop had to be made for the lower horn at such a distance from the other end by means of a 'timber hitch' that when the bow was strung there was a gap of six inches between the inside of the bow and the string at its knocking-point<sup>65</sup> (fig. 29). The bowstring was lapped with some material for about two inches and five inches below the knocking-point in order to protect and prevent its fraying, should it hit the arm, and also to get a better loose. The knocking-point exactly fitted the nock of the arrow otherwise a good flight could not have been obtained.<sup>66</sup>

### Fletchers and boyers

A fletcher is the maker of bows. Bābur describes about Haidar Mirzā, "He has a hand deft in everything, penmanship and painting, and in making arrows and arrow-barbs and string-grips, moreover, he is a born poet". <sup>67</sup> Shaikh Mahmūd Kamāngar was a noted bow-maker of Humāyūn's time. He had later assumed the title *Kamāngar* (literally 'bow-maker') as his surname. <sup>69</sup> His disciple Maulānā Muhammad Amīn, though a saint, was adept in making bows. <sup>70</sup>

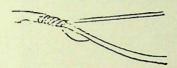


Fig. 29 Fastening of a bow. The string was three-or-four-stranded, round, smooth and of even size throughout. It had an 'eye' spliced on it at one end which was intended to go over the upper horn of the bow. It was further fastened with silk or cotton thread or good fibre (Based on an actual specimen, National Museum, New Delhi)

### Arrow

Bāburid arrow had four parts: point, shaft, nock and feathers (figs. 30-38).

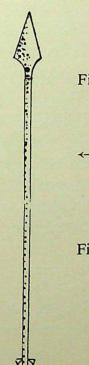


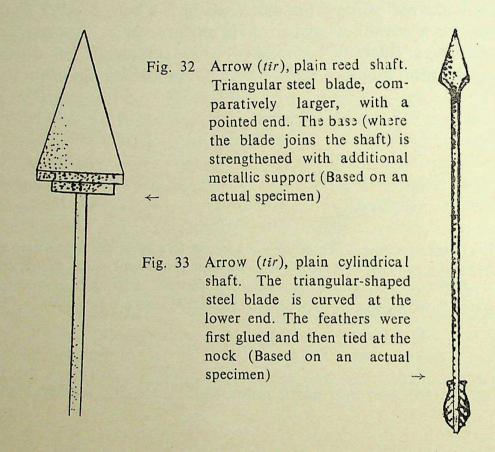
Fig. 30 Arrow (tir) with a reed shaft. The steel blade has straight sides and then it abruptly curves at the base, leaving two projected ends. Feathers were attached at the lower end (Based on an actual specimen)

Fig. 31 Arrow (tir) having the shaft of reed or bamboo. The steel blade is almost triangular-shaped with lower side slightly curved inside.

The feathers were first glued and then tied to the lower part (Based on an actual specimen) ->

#### Point

The arrow-heads or points were of various shapes. Some easily distinguishable types are gherā (broad-headed) (fig. 35), do-muhānāh (barbed), tarah-i-māh



(full moon or circular headed) (fig. 34),  $tarah-i-hil\bar{a}l$  (crescent-shaped) (figs. 37-38),  $tarah-i-b\bar{a}d\bar{a}m$  (almond-shaped) (fig. 34), etc.<sup>71</sup> The average length of a point was five or six inches. The crescent-shaped head was  $4\frac{1}{2}$  inches wide. These were made of wood, bamboo, bone, ivory but mostly of metal. In the  $B\bar{a}bur-n\bar{a}m\bar{a}$  the arrow for shooting the bird was called  $\bar{a}ug$ .<sup>72</sup> The forked arrows were called  $t\bar{\imath}r-giz$ .<sup>73</sup> This was a short flight arrow also used for shooting small birds. The word  $t\bar{\imath}r$  is given at No. 15 of the list in the  $\bar{A}in-i-Akbar\bar{\imath}$ .<sup>74</sup> Its another name was  $sih\bar{a}m$ .<sup>75</sup>  $Tuk\bar{a}h$  or  $tukk\bar{a}h$  was the name of an arrow without a head (fig. 36).

### Shaft

The body of the arrow is known as 'stele' or 'shaft' (danda) (figs. 30-31). The shaft was generally made of reed (figs. 33-34). Metal shafts having crescent-shaped heads were also used (figs. 37-38). The shaft usually measured 2 feet, 4 inches and its diameter ranged between 1/4 inch to nearby ½ inch. The head was fastened to the shaft in two ways: (i) by a tang which fitted into the end of the shaft (figs. 30-31), and (ii) by having a metal socket that fitted over the end of the shaft. The second method was more popular (figs. 35, 37, 38).

#### Nock

All the nocks (or notches) of Bāburid arrows were the 'plug nocks' i e., the shaft was cut to the appropriate length and the nock-end of the shaft was tapered



Fig. 34 Arrow (tir) having almondshaped head (tarah-i-bādām).

The reed shaft was inserted into the hollow shank of
the blade. Feathers were
attached at the lower end
(Based on an actual specimen)

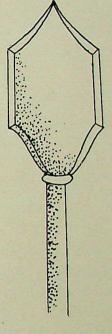
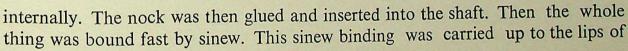


Fig. 35 Arrow (tir) having broad hexagonal head with a small shank. The shaft of reed was inserted into it



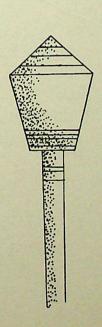
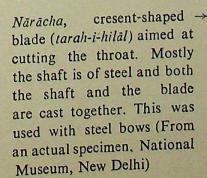
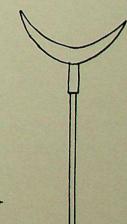


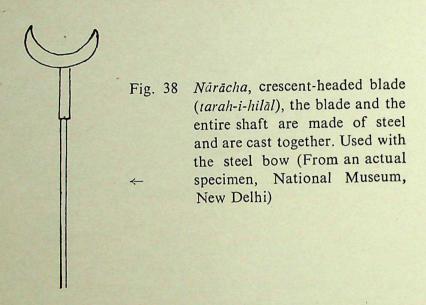
Fig. 37

Fig. 36 Tukkāh (also called na-kattā or nuktāh) arrow without a pointed head. These were used in practising archery or for killing small birds so that their skin is not shattered into pieces. During the training period such arrows were widely used (From an actual specimen, Mughal)





the nock for strength and as far forward as six or seven inches along the shaftment. The shorter plug nock was usually of bone, ivory or wood, and here, the shaft was simply cut across and the plug glued and inserted into the hollow shaft, a binding of sinew holding it firmly in place.<sup>78</sup>



The description of the Turkish arrow-nock, given by G.C. Stone, applies to the Bāburid nock, as well. He says, "In the Turkish arrows it (nock) is made of two pieces of wood having a natural curve that makes the opening at the end considerably smaller than close to the shaft so that the ends have to be sprung apart to admit the string. This is done to enable the archer, even on horseback, to carry an arrow in place ready for instant use. The pieces of the nock are glued and lashed with sinew to the shaft and it is much stronger than the usual horn nocks". 79

# Fletching

There is almost always a fourth part of an arrow, the feathers (also called 'flights') which are glued or tied to the shaft, to steady its flight (figs. 30, 31, 33, 34). The feathers were placed as nearly as possible in the line of the shaft.<sup>80</sup> Fletching is the art of fixing of the feathers to the arrows. The feathers, in general, were from three to five inches. Minimum five and maximum nine feathers are noticed in the miniature paintings of the  $B\bar{a}bur \cdot n\bar{a}m\bar{a}$ . Feathers of crow, swan, hawk, vulture and peacock were used for this purpose.

### Range

Direct reference to the range of arrow shots are seldom available. On an average the distance a Bāburid arrow could traverse with force and efficacy was about 120 yards. The range of the flight of an iron arrow was about 90 yards. A.S. Beveridge<sup>81</sup> mentions that in 1791 A.D. Muh. Effendī shot 282 yards from a Turkish bow which must have been shot from a cross-bow. Longer ones are also on record.<sup>82</sup>

Narrating his fight with his one-time-friend and now enemy Ahmad Tambal in Farghanā in 1499 A.D. for the fort of Mādū (one of the famous forts on main Aush-Kāshghar road) Bābur states, "we turned back to assault it. It is exceedingly strong. Its northern face stands very high above the bed of a torrent; arrows shot from the bed might perhaps reach the ramparts". In another occasion, again in Farghanā, in 1500 A.D. while crossing the Kohik river, he relates, "It was the season when it (Kohik river) comes down in flood. We rode right into it, man and horse in mail. It was just fordable for half-way over, after that it had to be swum. For more than an arrow's flight we, man and mount in mail, made our horses swim and so got across". 84

# Decoration applied

The bows of cane or wood were first lacquered and then painted all over. Sometimes only the edges of the bow-limbs were lacquered or engraved. The metallic bows were generally decorated with gold and silver damascening. The bows made of horn were usually engraved. Inscriptions were not altogether missing. The bows of Shāh Jahān, Shāh Ālam and Bahādur Shāh II, inscribed with their names and titles, are available.

The ornamentation of arrows (called 'cresting') was popular. The shafts of reed arrows were lacquered and painted. In certain cases a few inches near the point and a few inches above the nock were painted. The nock, made of bone and ivory, were sometimes engraved.

#### Cross-bow

In the *Bāhur-nāmā* cross-bow has been called *takhsh-kamān*, *kamān-i-gurohāh* and *nāwak*. The cross-bow and the cross-bowmen have been referred to at many places. In the very first day of Bābur's fighting at Farghanā in 1494 A.D., his guardian Khudāi-birdī Beg was struck by a cross-bow arrow killing him on the spot. He says, "As the assault was made without armour, my several bare braves (*vikit yilang*)<sup>85</sup> perished and many were wounded. One of Ibrāhīm Sārū's (Bābur's enemy) cross-bowman was an excellent shot: his equal had never been seen: he it was hit most of those (Bābur's men) wounded". Bābur himself was a perfect cross-bowman. In 1500 A.D. when he was besieged in a fort in Samarperfect cross-bowman. In 1500 A.D. when he was besieged in a fort in Samarperfect cross-bowman was shooting with a slur-bow (*nāwak*)<sup>87</sup> from above the Gate kand, he states, "I was shooting with a slur-bow (*nāwak*)<sup>87</sup> from above kept and some of my circle were shooting arrows (*āuq*). Our attack from above kept the enemy from advancing beyond the mosque (Khwājā Khizr's Mosque); from there he retired." \*\*88\*

The takhsh-kamān was a small slur bow, shaped in a single or double curve. Blochmann has defined it as a small bow. 89 Steingass describes it as a cross-bow. 90

## Quiver

The Persian name for a quiver is tarkash (figs. 39-46). It has been used for all kinds of usual quivers. These were hung on the right side, instead of on the shoulder. These were of three types— $jaib\bar{a}h$ ,  $qirb\bar{a}n$  and  $s\bar{a}ghd\bar{a}q$ .

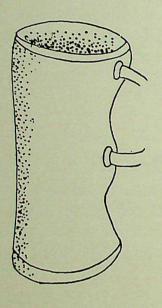
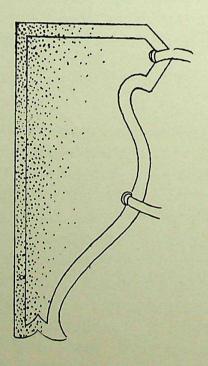


Fig. 39 Tarkash (quiver). It was worn handily at the wrist of the foot-soldier which kept the arrows to his hand and ready for instant withdrawal. It was sometimes hung across the girdle on the right side, instead of on the shoulder. It is cylindrical with one side straight the other and smoothly concave with two crescent-like curves (after S.P. Varma)

Fig. 40 Qirbān or bow-case which was exclusively for bows. The composite bows were always carried strung in cases that only covered the lower half. It was a favourite of the cavaliers who hung it on the left side of the girdle. It is shaped like a half bow and was sufficient to accommodate only as much (Based on an actual specimen, National Museum, New Delhi)



### Jaibāh

Jaibāh was generally a flat case, broad at the mouth, one side straight and the other sloping to a point, provided with a strap for carrying over the shoulder. This broad shape was due to the fact that this kind of quiver was used to hold the bow as well as the arrows. Its another variant was cylindrical

and round with one side straight and the other smoothly concave from end to end or with two crescent like curves. They resembled a bucket. The forms were similar, only the curves differed. They were invariably small and held the arrows in the middle. The quivers were slung horizontally from the waist. There were loops on its concave side to fasten it with strings (fig. 47).<sup>94</sup>

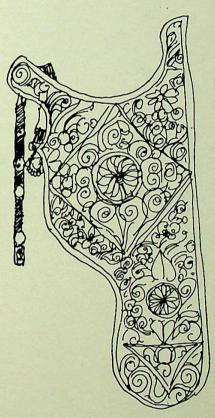


Fig. 41 Qirbān, quiver exclusively for bows. It is made of velvet and is embroidered all over with floral and creeper design. A strap is tied at the upper end (Based on an actual specimen)

# Qirban or Bow-case

This was a bow-case which was exclusively for bows (fig. 41). The composite bows were always carried strung in cases that only covered the lower half. These  $qirb\bar{a}ns$  formed part of all horsed-archers equipage and were very comfortable to wear. It was hung on the left side of the girdle (fig. 42). It was of the shape of a half bow and was sufficient to accommodate only as much (fig. 40). The other half of bow remained outside of it. It was a flat case, broad at the mouth, with one side straight and the other sloping to a point (fig. 43). In the miniature paintings the tarkash and the  $qirb\bar{a}n$  are shown to hold the arrows and bow separately. Only in certain situations when the attendants or insignia-holders carried the bow and arrows, they kept them in  $qirb\bar{a}ns$  but primarily it was a bow-case and was not meant for arrows (fig. 44).

# Saghdaq

In the  $B\bar{a}bur-n\bar{a}m\bar{a}$  another name for the quiver is given. It was  $s\bar{a}ghd\bar{a}q$ . Describing the army of Khan Dada, the Elder, at Farghana in 1502 A.D., Babur says, "All his men had adorned themselves in Mughal fashion. There they were in Mughal caps (burk), long coats of Chinese satin embroidered with stitchery,

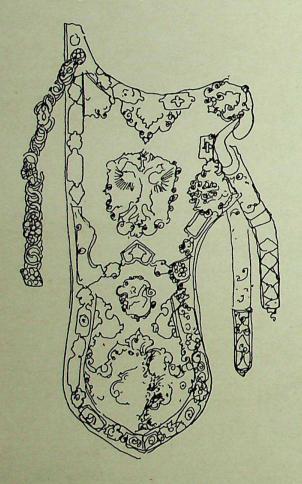
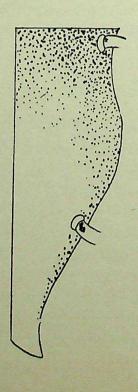


Fig. 42 Qirbān (bow-container) purposely decorated with floral and creeper designs. It seems to have been made of some soft skin. It could accommodate only half of the bow. It is a flat case, broad at the mouth and narrow at the bottom (Based on an actual specimen, National Museum, New Delhi)

Fig. 43 Qirbān or bow-case. Its one side is straight and the other is sloping to a point. The bow was carried strung in these cases that only covered the lower half. It was hung on the left side of the girdle with the help of leather straps (Reproduced from the miniature painting, Mughal, late 16th century A.D.)



Mughal quivers (sāghdāq) and saddles of green shagreen leather, and Mughal horses adorned in a unique fashion."97

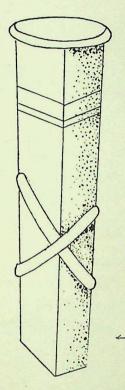


Fig. 44 Qirbān (bow-case) made of soft skin and profusely embellished with embroidered geometrical, floral and creeper motifs. The bow was carried by the horsed-archers at the waist, hung from the belt, inside qirbān, on the opposite side to tarkash (Based on an actual specimen, Wallace Collection, London) ->

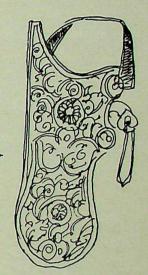


Fig. 45 Tarkash (quiver) used by the foot-soldier who carried it on the back fastened with leather straps. It is hexagonal with a circular mouth. It could contain 20 to 40 arrows (From an actual specimen, Alwar Museum, Alwar)

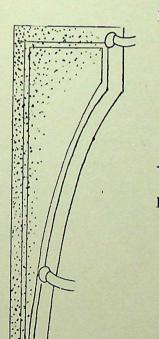
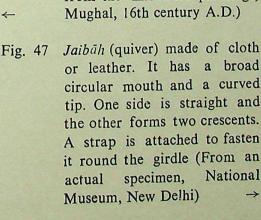
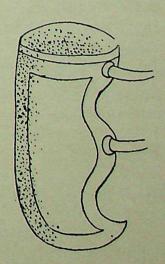


Fig. 46 Qirbān or bow-case. Its one side is straight and the other side looks like a half bow. The qirbān formed part of all Mughal horsed-archers equipage and was very comfortable to wear (Reproduced from the miniature paintings, Mughal, 16th century A.D.)





In Farghanā in 1502 A.D., Bābur was chased by two foes—Bābā of Sairam and Bandā Alī. He was exhausted and friendless. He thought to himself, "My horse is worn out and the hills are still somewhat far away; which way should I go? In my quiver are at least 20 arrows: should I dismount and shoot them off from this pile of rock? Then again I thought I might reach the hills and once

there stick a few arrows in my belt and scramble up. I had a good deal of confidence in my feet and went on, with this plan in mind".98

The foot-soldiers carried the quivers on his back (figs. 45, 47). The horsed-archer carried his bow and quiver in a different way (fig. 72). Tarkash was worn handily at his wrist which kept the arrows to his hand and ready for instant withdrawal. Bow was carried at the waist, hung from the belt, inside  $qirb\bar{a}n$  (fig. 46), on the opposite side to tarkash (figs. 45, 72).

There were other quivers, long and cylindrical, with the sides gradually narrowing towards the end. They had straps to sling across the shoulder. This type of quiver was frequently used by the Indian warriors and Greek soldiers and not by the Mughals.<sup>99</sup>

In the illustrated copy Bābur has often been painted carrying a tarkash and also presenting it to his faithful generals. On the 18th Dec., 1528 A.D., a grand feast was held at Agra. Most of the obedient generals like Khawājā Mīr Sultān, Mullā Fārrukh, etc., were given gold and silver coins by the quiverful (tarkashbila). 100

# Tarkash-band or quiver-bearers

The quiver-bearers were called tarkash-band<sup>101</sup> (fig. 48). Immediately after the conquest at Panīpat, Bābur sent royal letters requesting the neighbouring kings for the soldiers and quiver-bearers. On his appeal one Shaikh Guran of Doāb brought with him 3000 soldiers and quiver-bearers and did obeisance to Bābur.<sup>102</sup> Ālam Khān also promised the help of quiver-bearers to Bābur in capturing the fort of Bianā. On Sunday, the 24th February, 1527 A.D., Shaikh Gaṅgā and Yamunā and from Delhi so that with that force he might overrun the Miwātī rebels. On Thursday, the 7th April, 1529 A.D., Shāh Muhammad, one of the generals, was honoured for his meritorious work and an allowance from the 1,90,86,060 taṅkas) were bestowed on him for the maintenance of quiver-bearers.<sup>105</sup>

# Symbolical use of quiver

The quivers were sometimes applied to strange uses. In 1495 A.D. Bābur's Sārū came out of the fort with his sword and quiver hanging from his neck and fort of Qalāt in Kābul in 1505 A.D. 106 Similarly, when Bābur attacked the Qarā Bilut, came out with their swords and quivers hanging round their necks. 107 They were forgiven by Bābur.



Fig. 48 Babur in Kabul, painted by Tulsi. Bābur captured a flock of sheep from the Hazārās. He is riding a caparisoned horse and is surrounded by his armed soldiers (From the Bābur-nāmā)

42

The tarkash and qirbans were generally made of leather or wood and covered with velvet which was richly embroidered.

# Remarkable feats of archery

Bābur tells about Islim Barlās, one of the amīrs of Kābul, in 1505 A.D., that he was an excellent archer. "Drawing a bow of 30 to 40  $batm\bar{a}ns^{109}$  strength, he would make his shaft pass right through the target (takhta). In the gallop from the head of the qubaq- $maid\bar{a}n^{110}$  he would loosen his bow, string it again, and then hit the gourd (qabaq). He would tie his string-grip (zih-gir) to the one end of a string from 1 to  $1\frac{1}{2}$  yards long, fasten the other end to a tree, let his shaft fly, and shoot through the string-grip while it revolved. Many such remarkable feats he did."

Another person, Sayyid Muhammad-i-aurus, the Commandant in Andikhud, was equally a wonderful archer. Babur says, "At that time there were excellent archer-braves; one of the most distinguished was Sayyid Muhammad-i-aurus. His bow strong, his shaft long, he must have been a bold (yurak) shot and a good one". 114

About one of his *amīrs* and relatives, Sl. Ahmad Mirzā, Bābur records at Farghanā in 1493 A.D. "He drew a good bow, generally hitting the duck<sup>115</sup> both with his arrows ( $\bar{a}ug$ ) and his forked arrows ( $t\bar{\imath}r$ -giz), and as a rule, hit the gourd in riding across the lists ( $maid\bar{a}n$ ).<sup>116</sup>

Bābur himself was a superb archer (fig. 48) Badāyūnī tells us that Bābur, on the eve of the battle of Ghaj-davān, shot an arrow into the Auzbeg camp which carried the following couplet expressive his ill-will to the Śhāh and perhaps also of his rejection of the Shiā guise he himself had worn:

"I made the Shāh's Najm road-stuff for the Auzbegs
If fault has been mine, I have now cleansed the road"117

# Horse-archery

Horse-archery did not strike roots in ancient India. Introduced by the Parthians and continuing for a time as a sickly exotic, it withered away shortly after the Gupta period. It was revived by the Turks in the 11th century A.D. Persian and Afghan horse-archers played very significant roles in the two battles of Tarāin (1191 and 1992 A.D.). Bāburid soldiers, without exception, were a past-themselves with the stirrups while moving. We find the references of archers in horse-archer in horse-archer, who are riding the horses and taking part in war and hunting. 121 (figs. 23,48,211).

### Archers in the siege

Fully armoured archers, (fig.) shooting with their composite bows from the ramparts and defending the fort against the besiegers or attacking the enemy fort with their arrows are available in plenty in the  $B\bar{a}bur-n\bar{a}m\bar{a}$ . (fig.)

# Hunting

Bābur narrates several of his personal experiences of hunting with arrows. (figs. 23), "In A.H. 913 (1508 A.D.) A hunting-circle was formed on the plain of Kattawāz, where deer (kiyika) and wild animals are plentiful and always fat masses went into the ring; masses were killed. During the hunt I galloped after a wild-ass, on getting near, shot one arrow, shot another but did not bring it down, it only running more slowly for the two wounds. Spurring forward and getting into the position quite close to it. I chopped at the nape of its neck behind the ears, and cut through the wind-pipe: it stopped, turned over and died." 123

Bābur even killed rhinoceros<sup>124</sup> with arrows. In A.H. 932 (1526 A.D.) "We crossed the Siyābāb in front of Bigrām (Peshawar) and formed out hunting-circle<sup>125</sup> looking down stream. After a little a person brought word that there was a rhino in a bit of jungle near Bigrām, and that people had been stationed near about it. We betook ourselves, loose rein, to the place, formed a ring round the jungle, made a noise and brought the rhino out, when it took its way across the plain. Humāyūn and those came with him from that side (Tramontana) who had never seen one before, were much entertained. It was persued for the miles: many arrows were shot at it; it was brought down without having made a good set at man on horse." <sup>126</sup>

Earlier on the 29th Dec., 1520 A.D. (A.H. 926), Bābur hunted deer with an easy bow. 127 On the 25th March, 1519 A.D. (A.H. 925) still in Kābul, Bābur narrates the hunting of a tiger, "The tiger again came out roaring. Arrows were shot at it from all sides. I shot with the rest. Khalwī, a foot-soldier, pricked it with a spear; it bit the spear and broke off the spear-head. After testing of all these arrows, it went into the bushes and stayed there. Bābā, the waiting-man, went with drawn sword close up to it; it sprang; he chopped at its head; Alī Sīstānī<sup>126</sup> chopped at its loins; it plunged into the river and was killed right in the water. It was got out and ordered to be skinned." 129

On the 12th Nov., 1519 A.D. (A.H. 925) while still in Kābul Humāyūn made a very good arrow shot at a duck from a boat. 130

In Kābul itself Bābur had witnessed a very interesting method of catching cranes (turna) with arrow and cord which was employed by the Baran people, living on the banks of the Baran river. Bābur says, "This method of bird-catching is unique. They twist a cord as long as the arrow's flight, 131 tie the arrow at one

end and a bildurga at the other, and wind it up, from the arrow-end, on a piece of wood, span-long and wrist-thick, right up to the bildurga. They then pull out the piece of wood, leaving just the hole it was in. The bildurga being held fast in the hand, the arrow is shot off towards the coming flock. If the cord twists round a neck or wing, it brings the bird down. One night I shot it; it broke in drawing in, both bird and cord were brought in to me next day."<sup>132</sup>

## Practice archery

The practice shooting was called  $ch\bar{a}ndm\bar{a}r\bar{\imath}$  and the target was named  $tod\bar{a}h$ . The place was termed qabaq-maid $\bar{a}n$  which was a level field in which a gourd  $(qabaq)^{133}$  was set on a pole for an archer's mark to be hit while passing at the gallop. Sometimes hen was also chosen as a mark.<sup>133</sup>.

### Archer's ring

The archer's ring called zihgir was worn on the right thumb in order to prevent the flesh being torn by the bowstring. It was different from shast or shast-ā-wéz. In 1502 A.D. Bābur was caught unaware by Tambal's force and in his attempt of shooting he shot off the arrow on his own thumb. The word used here is shashtim. The shast (thumb) in archery is the thumb-shield used on the left hand, as the zihgir (string-grip), the archer's ring, is on the right hand thumb. In the shast (thumb) in archer's ring, is on the right hand thumb.

#### Gosha-Gir

The word  $gosh\bar{a}$ - $g\bar{\imath}r$  occurs for the first time in the  $B\bar{a}bur$ - $n\bar{a}m\bar{a}$ . Bābur while fighting with Tambal in June, 1508 A.D., at Farghanā, was seriously wounded. He says, "I shot off the arrow  $(\bar{a}ug)^{138}$  on my thumb, aiming at Tambal's helm. When I put my hand into my quiver, there came out a quite new  $gosh\bar{a}$ - $g\bar{\imath}r$  given to me by Khān Dādā, the Younger. It would have been vexing to throw it away but before I got it back into the quiver there had been time to shoot, may be two or three arrows."

Annettee Susannah Beveridge<sup>140</sup> has explained that in archery the word  $gosh\bar{a}^{141}$  describes, in an arrow, the notch by which it grips and can be carried on the string, and in the bow, both the tip (horn) and the notch near the tip in which the string catches. Two passages in the *Cyclopaedia of Archery* quoted by A.S. Beveridge, show  $gosh\bar{a}$  as bow-tips. One says "to bend the bow, two men must grasp the two  $gosh\bar{a}$ . The other reports a tradition that Archangel Gabriel brought a bow having its two tips  $(gosh\bar{a})$  made of ruby. The same book directs that the  $gosh\bar{a}$  should be made of seasoned ivory. The Archer's Guide, however, recommends mulberry wood for the purpose.

In the Cyclopaedia of Archery it is advised that bowman should never be without two things: his arrows, and his  $gosh\bar{a}-g\bar{\imath}r$ . The  $gosh\bar{a}-g\bar{\imath}r$  may be called

"an item of the repairing kit, it is an implement for making good a warped bowtip and for holding the string into a displaced notch. It is known also as *chapras*, brooch or buckle, *kardang*, and is said to bear these names because it fastens in the string." Its shape is that of the upper part of the Arabic letter *jim*, two converging lines of which the lower curves slightly outward. There is a point of interest in that neither *ha* nor *kha* are mentioned, as the position of the dot corresponds to that of the bowstring. It serves to make good a warped bow without the use of fire, and it should be kept upon the bow-tip till this has reverted to its original state. Until the warp has been straightened by the  $gosh\bar{a}$ - $g\bar{\imath}r$ , the bow must be kept from the action of the fire because it (composite of sinew and glutinuous substance) is of the nature of wax.

The  $gosh\bar{a}$ - $g\bar{\imath}r$  could also have been used to straighten the middle portion of the bow  $(kam\bar{a}n \cdot kh\bar{a}n\bar{a})$ . In that case  $gosh\bar{a}$ - $g\bar{\imath}r$  is called kardang. It is, however, to be remembered that this implement could be used only when there were not two daur (curves) in the bow. In case of two  $daur^{143}$  the bow could never be repaired without fire.

#### REFERENCES

- 1. The real cause of the conquest of Sind (now in Pakistan) was the boundless zeal of the Arabs for their new faith. They wanted to spread Islam. They had conquered Afghanistan and Mekrān (Baluchistan) and next came Sind. In the opening years of the eighth century king of Ceylon sent eight ships full of valuable presents to Khalīfā Wālid and Hajjaj, the governor of Basrā. These ships were plundered by pirates near Debal (modern Karachi), a port of Sind. At that time Dāhir, a Hindu  $r\bar{a}j\bar{a}$ , ruled over Sind. Hajjāj demanded compensation from Dāhir for the loss of ships but the latter put forth the excuse that the port of Debal was not under his dominion and that he was unable to suppress the pirates. At this Hajjāj sent an expedition against Sind in 710 A.D. but it proved vengence upon the Sindhis. So in 712 A.D., he sent a fresh army under his nephew and son-in-law, Muhammad-bin-Kāsim, a young man of seventeen and an able general, who marched through Mekrān and conquered Debal. Sind and Multān. Dāhir was killed and his wife Rānībāī fought for some time and later performed a jauhar.
- 2. The term napthā originally meant 'Greek fire': in modern Persia, it means 'petrol'. Since we find napthā being used again and again for burning of houses by the Mongols, the reference can only be to gunpowder. This is clarified by Yezdi who on occasions uses the term napthā-i-syāh or black naythā, which could only mean gunpowder. According to Yezdi the Mongols first heated the stone of the fort-wall and then threw vinegar upon it. This reduced the stone to dust which was drawn out by a chisel. The process was proceded with and wooden stakes had to be put to prevent the fort-wall from falling. When they had proceded deep enough, the gunpowder mine was laid and set in fire; vide, M. Habib and K.A. Nizami, A Comprehensive History of India (edited), vol. 5 (Delhi, 1970), p. 125 footnote.
- 3. Hon. Wilbraham Egerton, An Illustrated Handbook of Indian Arms (London, 1880), pp. 14-15.
- 4. G.N. Pant, Indian Archery (Delhi, 1978), p. 35.
- 5. M. Habib and K.A. Nizami, op. cit., p. 139. The anonymous author of Hududal Ālam says that "from these provinces (Persia and Afghanistan) came slaves, zirah (armour), tir-o-kamāna (bow and arrows), jaushan (coats of mail) and horses", vide, Hududul Ālam, 110; C.E. Bosworth, "The Early Islamic History of Ghur", Central Asiatic Journal, vol. VI (1961), p. 118.

- 6. This instrument has very widely been used in the sieges of medieval Indian forts.
- 7. We have a few stray examples of ancient Indian knights riding on and shooting arrows (and hurling spears) from the horse-back but a thing like real horse-archery was introduced in India by the Scythian and Parthian 'Satraps' who conquered north-west India in the first century B.C. Their coins bear testimony to this fact. Once the advantages of the horse-archery were known to the Indian soldiers, it gradually became a part of Indian mode of warfare as well, though it did not strike roots in the Indian soil. It was revived by the Turks in the 11th century A.D. For details see G.N. Pant, op. cit. (1978), pp. 269-279.

8. Bābur-nāmā, folio 105, tr. p. 163.

9. Qashqa atliq kishi. For a parallel phrase see folio 92.

10. Babur does not explain how this imbroglio was cleared up; there must have been a dramatic moment when this happened.

11. Bābur-nāmā, folio 199 b, tr. p. 316.

12. Bābur-nāmā, f. 211, tr. p. 336.

13. In Haider Ms. qachār, Ilminsky, p. 268, and both Persian translations rukhsār or rukhsāra f. 25 and note to qachar).

14. Bābur-nāmā, f. 214, tr. p. 341; tushiq tushdin taghghayurukailar, of 205 b for the same phrase with supposedly different meaning.

15. Qangshar lit., 'ridge of the nose' Bābur-nāmā, f. 215, tr. p. 341.

16. Bir aug ham quia-almadilar (f. 203 b note to chapqun); Bābur-nāmā, f. 214, tr. p. 341.

17. Bābur-nāmā, folio 214, tr. p. 341.

- 18. Ibid., folio 259, tr. p. 460.
- 19. Ibid., folio 266 b, tr. p. 573.
- 20. G.N. Pant, Indian Archery, op. cit., p. 40.

21. Ibid., p. 40, f. 122.

- 22. This is known as tulghumā. See one of the appendices of this book for details.
- 23. The Cambridge History of India (ed.) Richard Burn, vol IV (Cambridge, 1937), p. 13.

24. Bābur-nāmā, f. 266 b, tr. p. 473.

- 25. Rāṇā Sāngā (1508-28 A.D.), unlike Ibrāhim Lodī, was a distinguished warrior, an able general and a calculating politician. Though Khanua, near Agra, proved to be tragic climax to his military career, he had terrified Bābur who himself confesses it. Bābur issued a firmān (royal decree) that no one would drink wine during war, and having disposed of all his gold and silver wine vessels, he poured all the wine into a well; vide, The Cambridge History of India, op. cit., p. 17.
- 26. G.N. Pant, Indian Archery, op. cit., p. 90.
- 27. Ibid.
- 28. Bābur-nāmā, translator's note p. 700.
- 29. S.P. Verma, Art and Material Culture in the Paintings of Akbar's Court (New Delhi, 1978), p. 92.
- 30. G.C. Stone, Glossary of the Construction, Decoration and Use of Arms and Armor, reprinted (New York, 1921), p. 130, figs. 171, 1 and 2.
- 31. During the Mughal period the nock was called goshāh which literally meant "the corner". Its another names was sufar; W. Irvine, The Army of the Indian Mughals, reprinted (New Delhi, 1962), p. 93. It should not be confused with the cut at the end of the shaft of the arrow which is also called "nock" or "notch".
- 32. S.P. Verma, op. cit., p. 92.
- 33. G.N. Pant, Indian Archery, op. cit., p. 108.
- 34. Ibid., pp 106-8, fig. 173.
- 35. G.C. Stone, op. cit., p. 133, fig. 171.
- 36. bir yuz atlinqning atini nawak aug bila yakshi atim. This has been translated by Erskine as 'pale horse'.

- 37. Bābur-nāmā, folio 92 b, tr. p. 143.
- 38. narm-dik, the opposite of a gatiq vai, a stiff bow.
- 39. Bābur-nāmā, folio 249, tr. p. 420.
- 40. Bābur-nāmā, folio 291 b, tr. p. 519.
- 41. Bābur-nāmā, tr. p. 700, f. 3.
- 42. Bābur-nāmā, tr. p. 700, translater note.
- 43. G.N. Pant, op. cit. (1978), p. 113, fig. 183.
- 44. P.C. Chakravarti, The Art of War in Ancient India, reprinted (Delhi, Ahmadabad, 1972), p. 155.
- 45. C.J. Longman and H. Walrond, Archery (London, 1894), p. 37.
- 46. P.C. Chakravarti, op. cit., p. 154; C.J. Longman and H. Walrond, op. cit., p. 48.
- 47. The Mughal bowmen were considered to be specially expert with their weapon, as Bernier says, "a horseman shooting six times before a musketeer can fire twice, vide, Bernier, Travels in the Mogul Empire 1665-8, edited by A. Constable (1891), p. 48; cf., W. Irvine, op. cit., p. 91.
- 48. Egerton, Indian and Oriental Armour, reprinted (London, 1968), p. 144, note above No. 746.
- 49. G.N. Pant, op. cit. (1978), p. 117.
- 50. C.J. Longman and H. Walrond, op. cit., p. 50.
- 51. D. Elmy, "Steel Bows from India", Journal of the Society of Archer Antiquaries, vol. 12 (London, 1969), pp. 15-19.
- 52, P.C. Chakravarti, op, cit., p. 155. C.J. Longman and H. Walrond, op.cit., p. 26, inadvertantly say that "the steel bows have never come into use, except in the case of the crossbows," which is not correct.
- 53. Shāh Jabān's personal steel bow inscribed with his name and tittle Sāhib-i-Qirān is at present displayed in the Dogra Art Gallery, (Jammu, J&K). For details see G.N. Pant, Bhārtiyā Astra-Shastra (Hindi) (New Delhi, 1974), plate 75 (full view), plate 42 lower illustration (for close-up).
- 54. The personal steel bow of Bahadur Shah II, the last ruler of the Mughal dynasty, bearing some of his poems is preserved in the National Museum, New Delhi. A similar bow inscribed with the Emperor's name is in the State Hermitage (Zerke Selo Collection), Leningrad, U.S.S.R. See G.N. Pant, op. cit. (1978), pls. LXIII to LXV.
- 55. G.N. Pant, op. cit. (1978), pp. 118-121, figs. 184-187.
- 56. D. Elmy, op. cit., p. 15.
- 57. W. Irvine confirms this view. He says, "The Moghul bow (kamāna) was about four feet long and generally shaped in a double curve. The bow was of horn, wood, bamboo (sic), ivory and sometimes of steel, op. cit., p. 16 and the figure on the same page.
- 58. For actual weights of some bows. arrows and quivers perserved in the National Museum, New Delhi, see, G.N. Pant, Indian Archery, op. cit., Appendix VII, pp. 358-9.
- 59. Bābur-nāmā, f. 167 b, tr. p. 263.
- 60. A.S. Beveridge, op. cit., p. 263 f.n.
- 61. Erskine, op. cit., p. 180, read gurdehilh for gurohā and translated "by double-stringed bow".
- 62. G.N. Pant, op. cit. (1978), p. 126.
- 63. Malik Muhammad Jayasi, Padmāvat, 43. 534; चारि पहरि दिन बीता गढ न ट्ट तस बांक। गरुब होत पै म्रावै दिन दिन टांकिह टांक ।।
- 64. G.N Pant, op. cit. (1978), p, 133.
- 65. D. Elmy, op. cit, pp. 15-19.
- 66. The nock should fit sufficiently tight on the string just to bear the weight of the arrow. Secondly, the knocking-point should be in the proper place, so that the arrow, when shot, leaves the string at right angle to it. If the knocking-point is too low, the arrow will not receive its propulsion directly through its centre from knock to point. It will upset the arrow and will spoil the flight.
- 67. Muhammad Haidar Mirzā Kurhān Duglāt Chaghatāi Mughul, the author of the Tārikh-irashīdī was born in A.H. 905 (1499 A.D.) and he died in A.H. 958 (1551 A.D.). He was of Bābur's clan.

- -68. Bābur-nāmā, f. 11, tr. p. 22.
- 69. G.N. Pant, op. cit. (1978), p. 137.
- 70. Maulānā Muhammad Amīn became a famous 'bowyer' at the time of Jahāngīr.
- 71. Most of these names occur in the Dastūr-ul-Inshā composed by Yār Muhammad in 1170 A.D., printed A.H. 1270=1853 A.D. in Calcutta, page 221 onwards.
- 72. Bābur-nāmā, f. 19. tr. p. 34.
- 73. Ibid., f. 135, tr. p. 213.
- 74. Abul Fazl, Ain-i-Akbari, I, p. 110, fig. 14a on pl. XII.
- 75. Alī Muhammad Khān, Mirāt-i-Ahmadī, composed A.H. 1174, lithographed, Bombay, A.H. 1307 (1889 A.D.), fol. 178 a. It is the plural of sahm (an arrow). Another word sahamahu is found in E.W. Lane, Arabic-English Lexicon (1867), p. 1434.
- 76. F. Steingass, Persian-English Dictionary (1892), p. 819. He explains the word as "an arrow without a point but with a knot at the end".
- 77. The description of a Turkish shaft, applicable to Indian shafts as well, needs mention here. They (the Turkish arrows) are largest at about one-third of their length from the nock and smallest at the head. The diameters are roughly as 16 at the head, 22 at the nock and 32 at the largest part. They are almost cylindrical between points at about one-quarter and onehalf their length from the nock. There is a slight curve here but it is too slight to measure without micrometer calipers. This shape offers the least possible resistance to the air, vide, G.C. Stone, op. cit., p. 72.
- 78. D. Elmy, "Indian Arrow", Journal of the Society of Archer-Antiquaries (London, 1969), vol. 12, p. 6.
- 79. G.C. Stone, op. cit., p. 72.
- 80. Bābur-nāmā, f. 249, tr. p. 420. Bābur shot a deer with an easy-bow on the .9th Dec., 1519 A.D.; the arrow went in to half up the feather.
- 81. A.S. Beveridge, tr. p. 140 f.n.
- 82. See Payne-Galwey's Cross-bow and A Q R, 1911. 4. Beveridge's Oriental Cross-Bows.
- 83. Bābur-nāmā, folio 67, tr. p. 109.
- 84. Ibid., f. 90, tr. p. 140.
- 85. i.e., either unmailed or actually naked.
- 86. Bābur-nāmā, f. 31, tr. 53.
- 87. Nāwak, a diminutive of nāo, a tube. It is described in a Ms of Bābur's time, by Muh. Budhai, and, in a second of later date, by Aminuddin (AQR 1911; H.B., Oriental Cross-bows).
- 88. Bābur-nāmā, f. 92, tr. pp. 142-3.
- 89. Ain-i-Akbari, 1.110 No. 14; cf., Egerton, op. cit., pp. 97-98, notes Nos. 263-8.
- 90. F. Steingass, op. cit., p. 1382.
- 91. Quiver is a case in which the arrows are carried. These have been used in all times and by all peoples who used bows. The commonest form is an open bag or bucket, a little shorter
- 92. William Irvine, op. cit., p. 99.
- 93. In the Zafar nāmā, we find Sultān Timūr, the Lame, presenting quivers with gold belts to his warriors. Clavijo tells us that Amir Timūr peopled his capital. Samarkand, with master craftsmen including bow-and-quiver makers, of all nations; cf., Abdul Aziz, Arms and Jewellery of
- 94. One such example of Mughal period is in the National Museum, New Delhi. 95. SP Verma, op. cit., pp. 93-4.
- 96. Ibid.
- 97. Babur-nāmā, f. 102 b, tr. pp. 159-60.
- 98. Bābur-nomā, f. 115, tr. p. 178.
- 99. S.P. Verma, op. cit., pp. 93-94.
- 100. Bābur-nāmā, f. 352 b., tr. p 632.

- 101. Ibid., f. 296, tr. p. 526. Also see folio 311 b (tr. p. 551), folio 367 (tr.p. 661).
- 102. Ibid., f. 303, tr. p. 538.
- 103. Ibid., f. 311 b, tr. p. 551.
- 104. Ibid., f. 366 b., tr. p. 661.
- 105. Ibid., f. 377, tr. p. 679.
- 106. Ibid., f. 31 b, tr. p. 53.
- 107. Ibid., f. 158 b, tr. p. 248.
- 108. Ibid., f. 173 b, tr. p. 276.
- 109. See batmān under 'Weight and draw-weight' in this very chapter.
- 110. A level field in which a gourd (qabaq) is set on a pole for an archer's mark to be hit in passing at the gallop.
- 111. Somtimes a hen (tuquq) or a duck was also used as an archer's mark, cf., Payne-Gallwey, op. cit., p. 231.
- 112. Or possibly during the gallop the archer turned in the saddle and shot backwards.
- 113. Bābur-nāmā, op. cit.
- 114. Ibid., f. 175, tr. p. 279.
- 115. ilbasun, a kind of mallard (Abushqā), here perhaps a popinjay.
- 116. Bābur-nāmā, f. 19, tr. p. 34.
- 117. Ibid., tr. p. 361.
- 118. The day of the war-horse dawned with the age of the Rgveda. Riding on and shooting arrows from the horseback was known to the Epic warriors but a thing like real horse-archery was not very popular before 1st century B.C.
- 119. P.C. Chakravarty. op. cit., p. 42.
- 120. R.C. Smail, Crusading Warfare, a Contribution to Medieval Military History, pp. 80-81.
- 121. M.S. Randhawa, Paintings of the Bābur-nāmā (National Museum, New Delhi, 1983), pls. XIV, XVII, etc.
- 122. G.N. Pant. op. cit. (1978), p. 283, fig. 379.
- 123. Bābur-nāmā, f. 204, tr. p. 325.
- 124. On folio 275 b, Bābur tells about an Indian rhino. "The rhinoceros hide is very thick; an arrow shot from a stiff bow, drawn with full length up to the armpit, if it pierces at all, might penetrate four inches".
- 125. For hunting circle (jirga) see Bābur-nāmā, f. 364 b, tr. p. 657 and f.n. 6, where a jīrga was made for wild elephants, tiger, rhino and buffalo. For the jīrga of boats see folio 367 b, tr. 662 and f.n. 6.
- 126. Bābur-nāmā, f. 253 b, tr. pp. 450-51.
- 127. Ibid., f. 249, tr. p. 420 and f.n. 5.
- 128. This is the name of one of the five champions defeated by Babur in single combat in A.H. 914.
- 129. Bābur-nāmā, f. 232 b, tr. p. 393.
- 130. Ibid., f. 247. tr. p. 417.
- 131. giz, the short flight arrow.
- 132. Bābur-nāmā, f. 142 b, tr. p. 225.
- 133. *Ibld.*, f. 173 b, tr. p. 276 and f.n. 3.
- 134. Ibid., f. 19, tr. p. 34 and f.n. 3.
- 135. A number of archer's rings are displayed in the Sawai Man Singh II Museum, Jaipur and Salar Jung Museum, Hyderabad.
- 136. William Irvine, op. cit., p. 94.
- 137. Upon the inside of this ring which projects half an inch, the string rests when the bow is drawn on outside it is only half that breadth and in loosing the arrow the archer straightens his thumb which sets the arrow free; cf, Hansard, Manufaeture of Bows, p. 133.

50

138. cf., folio 19, tr. p. 34.

139. Sar-i-sabz goshā-gir (sar-i-sahz means 'green-head' or new), cf., Babur-nāmā, f. 107, tr. p. 166 and f.n.

140. A.S. Beveridge, op. cit., Appendix 'C', pp. viii-ix.

141. In 1502 A.D., at Farghana, Khan Dada, the Younger, presented to Babur an armour, a cap, a coat of satin and a 'bag'. According to A.S. Beveridge (p. 160 ff.) the bag was meant for keeping spare bowstrings and archer's rings and other articles of 'repairing kit'. With the gift, it seems probable that the goshā-gir was given.

142. It is also recorded that if no kardanga is available the straightening can be done by means of stick and string, and if the damage be slight only the bow and the string can be tightly tied

together till the bow comes straight. Daur here means warp.

143. As many as three daur are mentioned in a bow.

3

# Swords and Daggers

### Introduction

At 6 a.m. on the 19th April, 1526 A.D., Bābur made a massive attack on the Afghan forces headed by Sultān Ibrāhīm Lodī and by the midday the Afghan army was routed. "No Sultān of India except Sultān Ibrāhīm," remarks Niāmatullāh, "has been killed on the battlefield." The Sultānate of Delhi, which had its birth on the battlefield of Tarāin in 1192 A.D. with the help of a sword, breathed its last in 1526 A.D., again owing to a sword, a few miles away on the battlefield of Panipat.

Babur describes an incident which took place in September, 1496 A.D., while he was making a second attempt on Samarkand. "The two commanders (Abdul Karīm and Mehdī Sl.) meeting exactly face to face, Mehdī Sl. pricked Abdul Karīm's horse with his 'Chirkas' sword so that it fell, and as Abdul Karīm was getting to his feet, struck off his hand at the wrist. Having taken him, they gave his men a goop beating."

Another incident took place at Farghanā in August, 1499 A.D. "Two braves chopped very well at one another; on our side Samad, Ibrāhīm Sarū's younger brother, and on their side, Shāh Suwār, one of the Hisārī Mughuls. Shāh Suwār struck so that his sword drove through Samad's helm and seated itself well in his head; Samad, spite of his wound, struck so that his sword cut off Shāh Suwār's head a piece of bone as large as the palm of a hand. Shāh Suwār must have worn no helm; they trepanned his head and it healed; there was no one to trepan Samad's and in a few days, he departed simply through the wound."

Bābur himself had to sustain several serious strokes of the sword of his adversaries before he became the king of India. In 1502 A.D., at Farghanā,

Bābur crossed swords with Tambal, his one time friend and relative but now enemy. Bābur says, "Tambal seemingly moved forward also. The high-road was between us; I from my side, he from his, got upon it and came face to face, in such a way that his right hand was towards me, mine towards him. His horse's mail excepted, he was fully accoutred, but for sword and quiver, I was unprotected. I shot off the arrow in my hand, adjusting for the attachment of his shield. With matters in this position, they shot my right leg through. I had on the cap of my helm.<sup>6</sup> Tambal chopped so violently at my head that it lost all feeling under the blow. A large wound was made on my head, though not a thread of the cap was cut.<sup>7</sup> I had not bared<sup>8</sup> my sword; it was in the scabbard and I had no chance to draw it."

In 1506 A.D., Bābur was staying at Bāgh-i-bihist in Kābul when he was surrounded by the rebels. "Seven or eight men stood in a breach of the garden-wall, I spurred at them; they could not stand; they fled; I got up with them and cut at one with my sword; he rolled over in such a way that I fancied his head was off, passed on and went away; it seems he was Mirzā Khān's foster-brother, Tālik Kukukdāsh and that my sword fell on his shoulder."

Just before the battle of Qandahār in 1507 A.D., Bābur was attacked by a small band of soldiers headed by Ashāquilāh. Bābur's general Tūfān "faced him, slashed swords with him, unhorsed him, cut off his head and brought it to me as we were passing Sang-i-Lakhshak; an omen we accepted."

On the 25th December, 1525 A.D., Bābur reached near Siālkot where he was informed that Ghāzī Khān had collected 40,000 men and Daulat Khān, the old man, had girt two swords to his waist and both had resolved to fight with Bābur. Later when Daulat Khān was defeated and arrested Bābur ordered that "the two swords he had girt to his waist to fight one with, should be hung from his neck." and the order was obeyed.

During Bābur and afterwards weapons, specially swords and daggers, were considered appropriate presents. On Saturday, 21st May, 1529, A.D., guerdon was bestowed on Aisān-timūr Sl. and Tukhtā-bughā Sl., the two amīrs, of swords and daggers with belts, cuirasses, dresses of honour and tipuchāq horse.<sup>14</sup>

#### Swordsmen

A number of swordsmen have been recorded by Bābur who was himself a past master in swordsmanship. Bābur's father Umar Sheikh Mirzā, the ruler of Farghanā, was a middling archer but an excellent swordsman not a man but fell to his blow," Qāsim Beg Qūchin's sword hewed away very well and he had proved his worth in the fight at Broad Ford in Farghanā in July, 1498 A.D. In to be arranged between Qashkā Mahmūd, the chief of Chirās clan and Ayūb, the

chief of Begchik clan. Both fought so well that at last it was settled that the former should take the highest place in the hunting-circle and the latter in the battle-array. About his Khān Dādā, the Elder, Bābur says that he was a man of singular manners. A mighty master of sword. He used to say that of arms there are the shashpar (six flanged mace), the piyāzī (rugged mace), the kistin (a ball if they strike, work only with what of them first touches, but the sword, if it touches, works from point to hilt. He never parted with his keen-edged swords; it was either at his waist or to his hand.

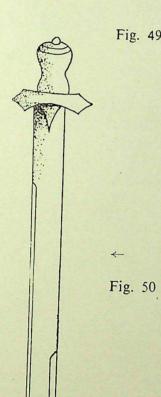
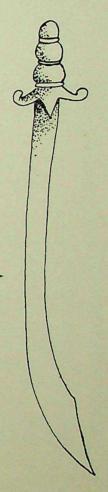


Fig. 49 Gāddārā (also called goddārā or guddārā literally meaning 'a weapon useful in gadar' (mutiny or riot). It is a slightly curved sword. simple-edged from the hilt and double-edged towards the point. The hilt consists of circular pommel drumshaped grip, straight quillons and triangular langets. Based on an actual specimen, Mughal.

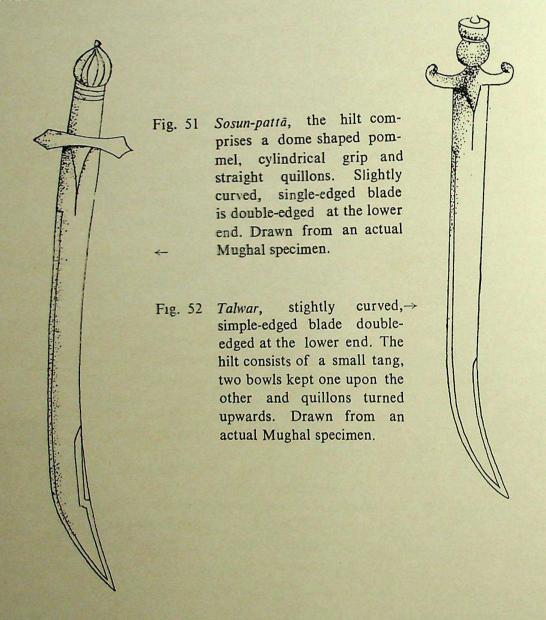
Sosun-pattā (lit. 'lily leaf') → form of sword. The hilt consists of three balls placed one upon the other, the quillons are turned upwards. The kopies-blade (like Turkish yātaghan or Indian khukarī) has a smooth curve on the convex side while it has double curves on the concave side. Drawn from an actual specimen, Mughal.



Kichik Khwājā, the elder brother of Kwājā Kalān, was in the left wing at the battle of Khubān in Kābul in 1505 A.D., and was killed while attempting to climb the tower of fort at Qalāt. Bābur says, "He was the most daring brave, he had used his sword in my presence several times." 18

Sultān Husain Mirzā, son of Mansūr, a relative of Bābur, who ruled in Khurāsān for 40 years, was very bold and daring. Though a drunkard yet "time and again he got to work with his own sword, getting his own hand in wherever he arranged to fight; no man of Timūr Beg's line has been known to match him in the slashing of swords."<sup>19</sup>

Zum-num Arghūn, an important amīr of Kābul, also wielded his sword very well but he was a bit of a fool. His son Shāh-i-Shujā used to chop away with his sword when he was still a boy. <sup>20</sup> Sayyidim Alī, son of Bābā Alī, who was earlier serving Khusrau Shāh in Kābul, later joined Bābur, was a singularly competent and methodical man, of excellent manners and a bold swordsman. <sup>21</sup> Baqī, though a catamite (hiz), was a mighty master of sword. He had opposed Bābur at Akshī in Kābul in 1519 A.D.



The illustrated copy of the Bābur-nāmā contains several war-scenes.<sup>22</sup> One folio<sup>23</sup> depicts Bābur's victory over Hussain Mirzā in 1496 A.D. Both the soldiers on their horses are fully armoured and are wielding their shamshīrs. One of the soldiers has, in fact, chopped off the head of his adversary. The folio<sup>24</sup> depicting the "preparation for the battle of Panipat" is very interesting. On the 5th February, 1526, A.D., Humāyūn made a sudden attack on the Afghān camp. His mounted archers, matchlockmen and swordsmen killed several Afghān soldiers and captured many including eight elephants. This was Humāyūn's first affair, his

first experience of battle. The actual battle of Panipat is depicted on folio no. 260. 25 On the 20th April, 1526 A.D., Bābur with his mounted archers, swordsmen and matchlockmen stationed himself at Panipat. The soldiers are seen holding slightly curved thin *shamshīrs* in their raised right hands and a shield in their left hands. Another folio 26 illustrates Bābur's victory over the Marghinān fort. Bābur with his army rode for days together and finally attacked the forces of Tambal and captured the fort. In this folio the soldiers are shown engaged in close fight and are using their swords at full might. On still another folio, 27 Bābur is portrayed riding a caparisoned horse giving instructions to his soldiers about the battle. A sufficiently long and almost straight sword with small pommel is seen hanging by his left side. It is suspended through his waist-belt. 28

#### Parts of the sword

A sword or a dagger has three main parts: (i) hilt, (ii) blade, and (iii) sheath. The hilt called  $kabz\bar{a}$  has following parts:<sup>29</sup> the uppermost part shaped generally

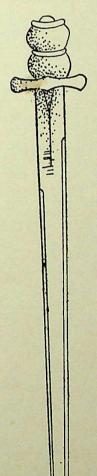


Fig. 53 Dhūp. It has a long, broad, straight, double-edged blade gradually tapering. The hilt consists of two bowls placed one upon the other and a pair of straight langets. The weapon was considered an emblem of sovereignty and high dignity, and was, therefore, displayed on state occasions. Drawn from the Bābur-nāmā illustrations.

like a bud is tang-button  $(mogr\bar{a})$ , followed succeedingly by a pommel  $(kator\bar{\imath})^{30}$  shaped like a circular disc, an oval-shaped grip  $(p\bar{u}tal\bar{a})^{31}$  a curved knuckle-guard  $(paraj)^{32}$ , a pair of quillons  $(tholi\dot{e})^{33}$  and a pair of langets  $(narah\dot{e})^{34}$ . The

blade is divided from top to bottom into a rectangular tang  $dum\bar{a}l\bar{a}$ ), <sup>35</sup> a square-shaped unsharpened space just below the tang called ricasso  $(khaj\bar{a}n\bar{a})$ , <sup>36</sup> the edge  $(dh\bar{a}r)$ , back  $(p\bar{\imath}tha)$  or the part opposite the edge and the tip (nok), the lowermost pointed part. The scabbard  $(mi\bar{a}n)^{37}$  has upper fitting  $(muhn\bar{a}l)$ , middle fitting  $(bichn\bar{a}l)$  and chape  $(tehn\bar{a}l)$ . <sup>38</sup>

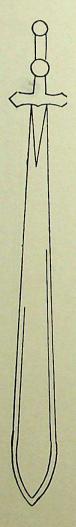
### Classification of sword

Some of the types represented in the Bābur-nāmā are as follows:

#### Baneh

It is often illustrated in the  $B\bar{a}bur$ - $n\bar{a}m\bar{a}$  and according to Egerton it finds mention in the  $\bar{A}in$ -i- $Akbar\bar{\imath}$ . It was a thin-bladed straight sword with quadrangular-shaped pointed tip. The hilt looked like a cross with a globular pommel, oval-shaped grip, straight quillons and triangular langets. It was a piercing weapon.

Fig. 54 Khāndā having a straight blade widening towards the point. It is simple-edged in the upper half and double-edged in the second half. The hilt consists of a cylindrical grip with two balls attached to it and a pair of straight quillons. From the Bābur-nāmā illustrations.



# Khanda

It had a broad, straight blade, usually widening towards the point, which is triangular or leaf-shaped<sup>41</sup> (fig. 54). The hilt mostly has a wide plate-guard and

wide finger-guard which joins the large, round, flat, pommel. At least four variants of khāndās are seen:

- (i) It has globular pommel, round grip, rectangular quillons and a straight blade, slightly tapering with a triangular tip. Up to 2/3 part it is double-edged.
- (ii) The hilt consists of a small tang button, round grip with three bands and quillons slightly drooping down. The straight blade, double-edged at the lower part, gradually widens and the widest part is the tip which is triangular-shaped.<sup>41</sup>
- (iii) The hilt is cylindrical with a circular top and globular grip, the quillons are short, thick and triangular-shaped. Comparatively long and pointed langets are attached. The blade, single-edged from the beginning and double-edged at the second half, is gradually widening and the widest lower part is shaped like a leaf.<sup>50</sup>
- (iv) It has a saucer-shaped pommel with a tang button, rectangular grip. straight quillons with triangular ends and small langets. The blade is wide near the hilt and then gradually tapers till in the middle it becomes very thin and then it abruptly widens into a leaf-shaped tip. The leaf-shaped portion is double-edged.<sup>51</sup> Two of its specimen are illustrated by Egerton.<sup>52</sup> The illustration of khāndā given in the Āin-i-Akbārī<sup>52</sup> seems to be identical to that of the dhūp (fig. 53) and varies from those in the miniatures and the specimens given by Egerton.

The  $kh\bar{a}nd\bar{a}$ 's distinguishing feature is its blade which is always straight and has a blunt point (fig. 54). The later variations of  $kh\bar{a}nd\bar{a}$  have a spike on the pommel which acted as a guard for the arm, and for a grip for the left hand when making a two-handed stroke. It was also used as a hand-rest when the sword was sheathed. The Bāburid  $kh\bar{a}nd\bar{a}s$  had short langets but the later varieties had very long langets. The  $kh\bar{a}nd\bar{a}$  was generally carried in a scabbard.<sup>54</sup>

#### Pulouvar

It has mostly curved (rarely straight) blade. The pommel is like a pierced covered ball surmounted by a cone. The ecusson and grip are generally chiselled. The source of *pulouvar* is not traceable and its later manifestations in India cannot be connected with any continuous traditions. The only precedent for the form appears in certain Arab swords. In one scene from the illustrated manuscript of the  $B\bar{a}bur-n\bar{a}m\bar{a}$ , a soldier is portrayed fully armoured and is carrying a pulouvar which is tied to his waist-band. Here the quillons are straight.

# Qilich

In the  $B\bar{a}bur-n\bar{a}m\bar{a}$ , a variant of sword has been referred to as qilich and broad-sword as  $y\bar{a}s\bar{\imath}qilich$ . Bābur had sent a  $y\bar{a}s\bar{\imath}qilich$  to Tambal, his one

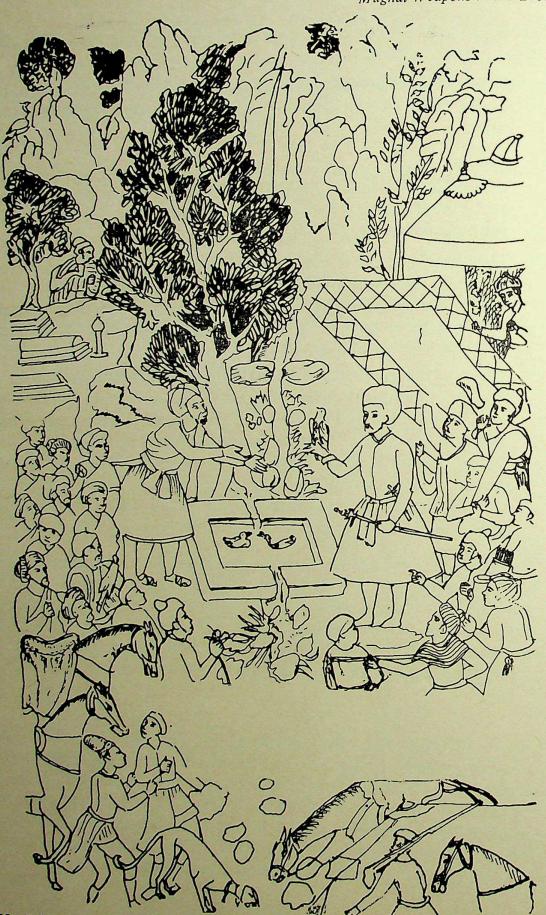


Fig. 55 Bābur, holding a hawk, is standing near a reservoir at Kābul which he got constructed.

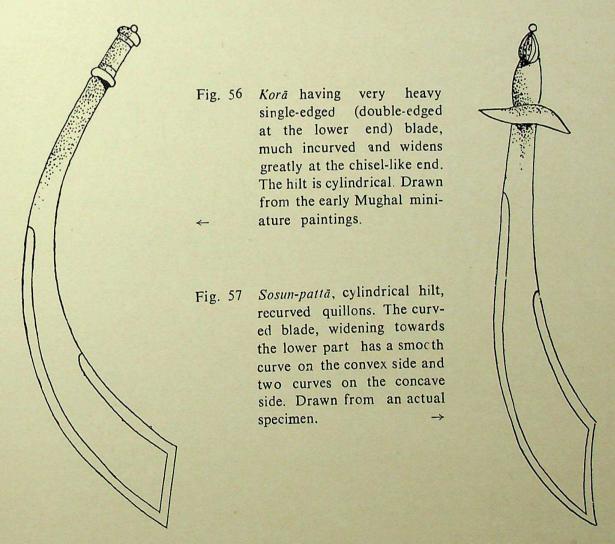
Bābur has a sword and a jamadhār on his person while his soldiers are carrying several weapons including matchlock guns (From the Bābur-nāmā)

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time friend, which Nuyān Kukuldāsh had made for himself at Samarkand. With this very sword Tambal had hit Bābur very severely at a later stage when both of them had become sworn enemy.

#### Shamshir

This is a purely Persian sword.<sup>60</sup> It is a cutting weapon with a perfect curve for the drawcut. Owing to its extreme curvature the point is practically useless.<sup>61</sup> The blade is very fine, narrow and thick, invariably of watered steel.<sup>62</sup> The earliest appearance of the sword of *shamshīr* variety is in a Persian manuscript of 1306 A.D.<sup>63</sup> It was probably in the 16th century A.D. that its use was fully established in India by the armies of Bābur although the Bāburid *shamshīr* greatly differs from those used by his successors. From the illustrations of the *Bābur-nāmā* it seems to be a short and curved sword with the forward section heavier than that near the hilt<sup>64</sup> (fig. 55). The pistol-shapedhilt, a peculiarity of *shamshīr*, is totally absent.<sup>65</sup>



On the Id of  $Shaww\bar{a}l^{66}$  in 1526 A.D., a large party was held in the pillared-porch of the domed building standing in the middle of Sl. Ibrahīm's private apartments in Delhi. At this party there was bestowed on Humāyūn a  $ch\bar{a}r-q\bar{a}b$ , 67

a kamar-shamshīr<sup>68</sup> a tipuchāq horse with a saddle mounted in gold; on Chintimūr Sultān, Mehdī Khwājā and Muhammad Sl. Mirzā chār-qabs, sword-belts and dagger-belts; and to the begs and braves, to each according to his rank, were given sword-belts, dagger-belts and dresses of honour.<sup>69</sup>

#### Talwar

It is a class name for Indian sabre and practically all the curved swords are included in it (fig. 52). For a student of weaponry it, however, stands for those curved swords which have the blade like that of shamshīr and the usual Indian hilt. Three variants of talwār are found in the Bābur-nāmā. First has a convex side. The hilt consists of a tang button, a saucer pommel, globular grip, upturned quillons and short triangular langets. The second variety has similar blade with a small projections on the concave side near the tip. The hilt comprises a globular pommel and long quillons. The third varient has similar blade but the hilt is thick and heavy. The hilt comprises a globular pommel and long quillons.

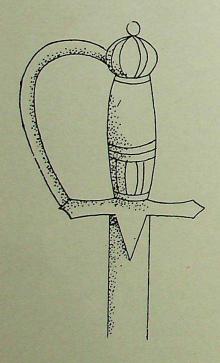


Fig. 58 Hilt consisting of a small tang button, a dome-shaped pommel a cylindrical grip, a pair of long and straight quillons and triangular langets. A knuckle-bow joins the grip and one of the quillons. Drawn from the Mughal miniature painting.

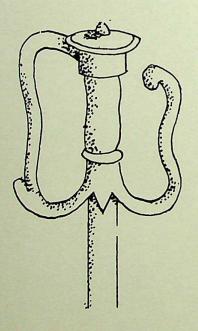


Fig. 59 Hilt, comprising a small tang button, a bowl shaped pommel, a cylindrical grip, indistinct quillons and short triangular langets. Two recurved knuckle-guards, one on each side, are attached. Drawn from the Mughal miniature paintings.

# Sosun-patta

Some of the swords depicted in the  $B\bar{a}bur-n\bar{a}m\bar{a}$  resemble the  $sosun-patt\bar{a}$ . This is the kopis-bladed form common in Persia and generally known to the West

by its Turkish name of  $y\bar{a}t\bar{a}ghan$ .<sup>73</sup> In India it is called by its Persian and Urdu name of  $sosun-patt\bar{a}$  literally meaning 'lily leaf' and is clearly derived from the shape of the blade. Surprisingly the  $sosun-patt\bar{a}$  form of sword appears very rarely in the miniature paintings of the Mughal School but a number of actual weapons are preserved in many of the Indian museums<sup>74</sup> (figs. 50, 51, 57).

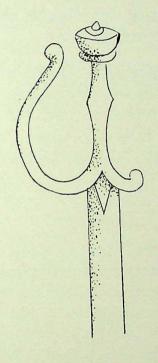


Fig. 60 Hilt, a small tang button, bowl-shaped pammel, diamond-shaped grip, indistinct pammel and triangular langets, A knuckle-bow is attached. Drawn from the Mughal miniature paintings.

### Sword-belt

It was customary to present sword-belts (fig. 1). In 1506 A.D. Muzzaffar Husain Mirzā, the ruler of Herī in Kābul, had presented to Bābur a lambskin surtout, a grey tipuchāq horse and a sword-belt.<sup>75</sup> When Bābur became the ruler of Delhi in 1526 A.D. it was few days after the Īd of Shawwāl that a large party was held and a number of sword-belts were presented.<sup>76</sup>

On the 12th December, 1528 A.D., Prince Askarī, one of the sons of Bābur, was given the rank of a royal commander and "on Saturday, the 29th of the first Rabī (December 12, 1528 A.D.), Askarī was made to put on a jewelled dagger and belt, and a royal dress of honour, was presented with flag, horse-tail standard, drum, a set of tipuchāq horses, 10 elephants, a string of camels, one of mules, royal plenishing, and royal utensils."

On the 13th April, 1529 A.D. (Wednesday), Muhammad Zamā Mirzā, the husband of Bābur's daughter, was made the Governor of Bihar and was presented with a royal head-to-foot, a sword and belt, a tipuchāq horse and an umbrella. To the 28th July, 1529 A.D., Murād, the Iraqī envoy to Bābur, was made to put on an inlaid dagger with belt and a befitting dress of honour and on the 16th August of the same year Hindū Beg, a reputed general of Bābur who was in the right wing at the battle of Panipat, was presented with a special head-to-foot and an inlaid dagger with belt. So

These sword-and-dagger-belts were called *kamarband* into which sometimes a few arrows were also stuck.<sup>81</sup>. On the 7th July, 1502 A.D., when Bābur, along with a few friends, was enjoying picnic at Farghanā someone stole the gold clasp of his girdle.<sup>82</sup>

At the time when Sl. Mahmud Khilji was defeated and arrested by  $R\bar{a}n\bar{a}$  Sanga in 1519 A.D., the vanquished ruler presented the famous crown-cap  $(t\bar{a}j-kul\bar{a})$  and a golden belt accepting which Sanga let him go free<sup>83</sup>.

One the 31st January, 1529 A.D., "in congratulation of the birth of Humā-yūn's son and Kāmrān's marriage, Mullā-Tābrīzī and Mirzā Beg Taghāi (Kāmrān's father-in-law) were sent with gifts (sāchāq) to each Mirzā of 10,000 shāhrukhīs (gold coins), a coat I had worn and a belt with clasps. Through Mullā Bihishtī were sent to Hindāl an inlaid dagger with belt, an inlaid ink-stand, stool worked in mother of pearl, a tunic and girdle."84

#### Hilts

The hilts, (figs. 49 to 61 as per their illustrations, were generally simple and without any protective device. These were smoothly curved and rounded above or sometimes flat and slightly curved inward at the end. Usually the hilt was made of two or three spheres of varying forms. It generally had a tang button, a round, square or oval pommel, straight (sometimes slightly curved) quillons and triangular langets. The quillon ends were sometimes embellished with knobs. The blades were attached firmly between pointed ecussons. Rarely we find a hilt fitted with the knuckleguard. The knuckleguards, if available, could be on both the

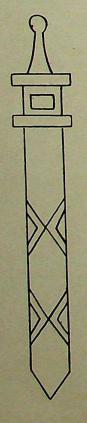


Fig. 61 Sword inside a decorated sheath. Sheath bears geometrical designs. The blade is straight and has a triangular point. Drawn from the Mughal miniature painting.

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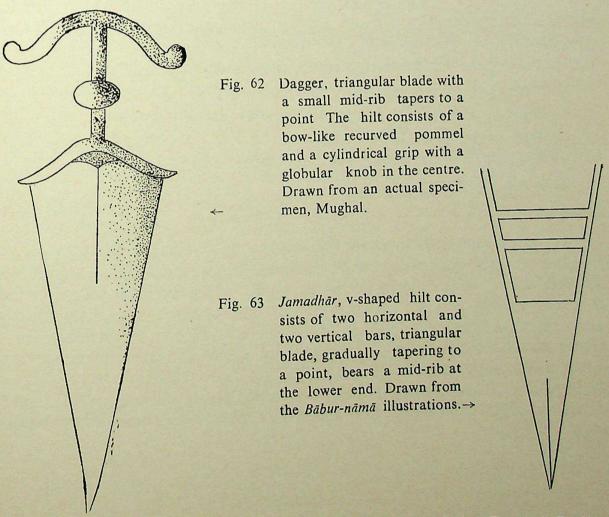
sides of the hilt. It seems that the swords with cross hilts were more popular. In their embellished form, the hilts were made of precious metals and were studded with the costiliest jewels.<sup>18</sup>

#### Scabbard

The sheaths were made of wood or leather (fig 61). Those of wood were covered with leather or velvet<sup>89</sup> and strengthened with metallic mountings known as  $muhn\bar{a}l$  (upper fitting) and  $tehn\bar{a}l$  (lower fitting). The sword was suspended from the sword-belt or girdle with the help of two or three strings. These belts were generally ornamented.<sup>90</sup>

# Daggers (fig. 62-65)

Bābur attacked on the fort of Qalāt in Kābul in 1505 A.D. and conquered it. "The night we dismounted at Kābul, I went into the fort; my tent and stable being in the Chār-bāgh, a Khirilchī thief going into the garden, fetched out and took away a bay horse of mine with its accoutrements and my khanjar."<sup>91</sup>



The Mirzās entertained Bābur at Herī in Kābul in 1506 A.D. and Badiuzzamān Mirzā arranged a party. "At this party they set a roast goose before me but as I was no carver or disjointer of birds, I left it alone. On this he (Mirzā at once disjointed the bird and set it again before me. In such matters he had no match. At the end of the party he gave me an enamelled waist-dagger, a chār-qāb and a tipuchāq"92 (fig. 3).

It has been stated earlier that on the 12th December, 1528 A,D., Askarī was given the rank of the royal commander and was made to put on a jewelled dagger and belt.93 "On Mīr Muhammad, the craftsman, who was deserving of reward for the excellent bridge he had made over the river Ganga (in 1528 A.D.) a dagger was bestowed"94. In the year 1529 A.D. a dagger with belt, cloth of gold and 70,000 tankās were presented to Amin Mirzā, the envoy.95

On Monday, the 28th July, 1529 A.D., the Qizilbash envoy Murad, the lifeguardsman, was made to put on an inlaid dagger with belt, and a befitting dress of honour.96 Again on Monday, the 16th August, 1529 A.D., Hindū Beg was presented with a special head-to-foot and an inlaid dagger with belt.97

#### Classification

A list of the gifts bestowed by Babur on the various persons in 1526 A.D. at Agra is given below.98

- 2 items (rās) of tipuchāq horses with saddles.
- 16 items  $(qabz\bar{a})$  of poniards, set with jewels, etc.
- 8 items  $(qabz\bar{a})$  of jewelled sword-belts.
- items (qabzā) of broad daggers (jamadhār) set with jewels.
- 25 items of jewelled khanjars (hangers).
- items of gold-hilted kārd (Hindi knives)
- 51 pieces of purpet.

#### Jamadhar

The word finds mention in the  $B\bar{a}bur-n\bar{a}m\bar{a}$  (fig. 63) and in the  $\bar{A}in-i-Akbar\bar{\imath}$ . This has very widely been confused with  $kat\bar{a}r$ . It is a typical Indian dagger found nowhere else.100 Its peculiarity lies in the handle which is made of two parallel bars connected by two or more cross-pieces. The blade is always double-edged and straight, triangular-shaped and thickened at the end. The numbers of the cross-pieces varies from one to two and are made straight, or from spheres of different sizes just enough for the grip. Two other variations of jamadhar are depicted in the  $\bar{A}in$ -i- $Akbar\bar{\imath}^{101}$  These have forked blades and are called  $jamadh\bar{a}r$ daulikāneh (two-pointed dagger) and jamadhār sehlikāneh (three-pointed dagger).

#### Kard

It was a straight-bladed dagger with a straight hilt and no guard. 102 It is Persian in origin and was introduced in India by Bābur. The  $k\bar{a}rd$  and peshqabzlook alike but the two are altogether different weapons. The hilt of a  $k\bar{a}rd$  is thin, slender, rectangular and delicate. The blade tapers gradually. While the peshqabz is a sturdy weapon, the  $k\bar{a}rd$  is a fanciful specimen. <sup>102</sup> It can be called a knife since it severs better than it cuts. It is mostly of Damascus blade, is single-edged and its point is often thickened to permit it to be forced through mail. <sup>103</sup> The hilt is made of elephant ivory, walrus ivory, jade, agate, crystal, jasper or any other precious or semi-precious material. Those made of watered steel were also known. The average total length of a  $k\bar{a}rd$  is about twelve inches out of which the blade alone measures about eight inches.

# Gupti-kard

The weapon shown in the illustrations of the  $B\bar{a}bur-n\bar{a}m\bar{a}$ , closely resembles the  $k\bar{a}rd$  represented in the  $\bar{A}in-i-Akbar\bar{\imath}^{105}$  It was a knife for thrusting, kept in a sheath and had a gauntlet. The blade was narrow like that of a rapier. A weapon of the commoners, it was hung on the waist with the string fastened at the top of the hilt (fig. 64).

# Khanjar

The *khanjar* had a double-edged, leaf-shaped, curved blade, broad near the hilt and terminating in a fairly sharp point at the end. <sup>106</sup> The blade is directly attached to the quillons. It is usually of fine forging of watered steel often finely carved. The hilts of *khanjar* <sup>107</sup> are probably the finest. <sup>108</sup> These are made of elephant ivory, walrus ivory, jade, horn, agate and other precious and hard material and are frequently set with jewels (fig. 65).

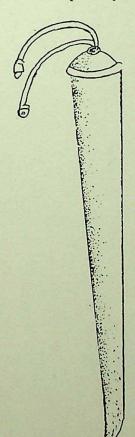


Fig. 64 Gupti-kārd seems like a knife concealed in a stick. It is straight, double-edged and tapering to a point. Two tassels are attached at the hilt. Drawn from the Ain-i-Akbari illustrations.

Fig. 65 Khanjar. double-edged, stightly curved blade was usually of fine forging of watered steel often finely carved. The hilt is made of crystal, jade, ivory or some hard and precious material and consists of a trefoil pommel, a cylindrical grip and curved quillors. Drawn from the Mughal miniature painting.

In the miniature paintings of the Bābur-nāmā, the daggers are generally represented with their sheaths tucked beneath the girdle. The blade is seldom exposed to view. Babur has incidentally mentioned some types of daggers: a broad dagger set with jewels which is the same as jamadhar, the khanjar, also a jewelled weapon, and enamelled waist-dagger. 109

The dagger commonly worn under the girdle was carried by nobles, chiefs and royal attendants. Their hilts were invariably without branches, pasd'ene, anneau and ecussons. The quillons were small and straight or slightly curved. The ornamentation of the hilt and sheath of dagger was similar to that of a sword. At their finest they were gilded, enamelled and studded with precious stones and metals.110

#### REFERENCES

- 1. Tārīkh-i-Khāna-Jhānī wa Makhzānī Afghānī written by Khwājā Niāmatullāh Harāwī, edited by Imamuddin (Dacca, 1960), I. 259.
- 2. Also called Circassian. Muhammad Sālih speaks of other Uzbēgs using Chirkās swords.
- 3. Bābur-nāmā, vols. I and II in one format, translated by A.S. Beveridge, reprinted, vol. I (New Delhi, 1979), p. 65.
- 4. Ibid., f. 65, tr. p. 106.
- 5. Tambal aikāndūr. By this term it seems that Bābur was not at first sure of the identity of the pseudo-sentries, partly because of their distance, partly, it may be presumed, because of concealment of identity due to armour.
- 6. dūwulgha būrki i.e., the soft cap worn under the iron helm.
- 7. Nuyān's sword dealt the blow (cf., fo!io 97 b, tr. p. 150). Gulbadan also tells the story (f. 77) apropos of a similar incident in Humâyūn's career. Bābur repeats this story on folio 234 (tr. p. 396).
- 8. Yaldaghlamai dur aidim may also mean the sword was rusty.
- 9. Bābur-nāmā. f. 107 b, tr. p. 167.
- 10. Ibid., f. 199 b, tr. p. 316.
- 11. Ibid., f. 208 b, tr. p. 333.
- 12. Ibid., f. 255, tr. p. 453.
- 13. Ibid., f. 258 b, tr. p. 459.
- 14. Ibid, f. 376, tr p. 677.
- 15. Ibid,, f, 76, tr. p. 16.
- 16. Ibid., f. 100 b. tr. p. 155.
- 17. Ibid., f. 103, tr. p. 160.
- 18. Ibid., f. 158 b, tr. p. 248.
- 19. Ibid., f. 164 b, tr. p 259.
- 20. Ibid., f. 172 b, tr. p 274.
- 21 Ibid., f. 192 b, tr. p. 307.
- 22 G.N Pant, Indian Arms and Armour, vol. II (1980, New Delhi), p. 17, figs. 11-14.
- 23. National Museum manuscript folio no. 32; A.S. Beveridge, folio no. 33, p. 58. 24. National Museum folio no. 255, A.S. Beveridge, f. 262, p. 466.
- 25. National Museum manuscript f. 260; A.S Beveridge, f. 267, pp. 473-4. 26. National Museum f. 66; A.S. Beveridge, f. 61, p. 100.
- 27. National Museum f. 70; Beveridge, f. 65, p. 113.

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- 28. G.N. Pant, op. cit. (1980), p. 73, fig. 156.
- 29. Ibid., pp. 29-31, fig. 32.
- 30. In order to balance the blade and make it easier to wield the sword a counterbalance was fitted at the opposite end of the grip known as 'pommel'. Early pommels were just as flat metal washers, but soon acquired a certain decorative quality with such details as animal's heads.
- 31. It is oval-shaped being wider in the middle and tapering on both the sides. In a shamshir it gradually terminates into the design of a walking stick. The grip is very often damascened in gold or silver and in some cases it is covered with velvet or leather cushion.
- 32. Bāburid soldiers, as a rule, did not prefer the swords with knuckle-guards.
- 33. These are the arms of the cross-guard found at the rear. The quillons also protect the hand. They are sometimes long and thin and sometimes short and thick.
- 34. Two langets, one on either side, form the lowermost part of a hilt. The mouth of the scabbard is usually recessed to accommodate these two long langets which project from the hilt, parallel with the blade.
- 35. This is the portion of the blade that fits into the hilt.
- 36. A square-shaped space, generally of 2 inches, is left blunt and unsharpened just below the tang and is called 'ricasso'. This saves the fingers, in case they slip out of the quillons, from being cut.
- 37. Sheaths were made of wood and were covered with cloth, leather, velvet or metal. The mouth of the sheath was cut in V-shape in order to accommodate the langets.
- 38. Many swords were fitted with a safety loop called 'sword-knot'.
- 39. W. Egerton, An Illustrated Handbook of Indian Arms (London, 1880), p. 117, No. 527, quotes from the Āin-i-Akbarī, "Dhop, straight blade, used by most of the Decanees". The author is unable to verifty the reference. The passage is not in the vol. I (translation) of the Ain-i-Akbarī and the word is not given in Blochmann's index either.
- 40. G. N. Pant, op. cit. (1980), p. 41.
- 41. As per the illustration in the Bābur-nāmā, the edges of the blades seem parallel and it had a triangular point. It is about 1.25 m long., ef., S. P. Verma, Art and Material Culture in the Paintings of Akbar's Court (New Delhi, 1978), p. 33, pl. LVIII, fig. 10.
- 42. W. Irvine, The Army of the Indian Moghuls, reprinted (New Delhi, 1962), p. 76.
- 43. The dhūp sometimes appears in Mughal paintings either worn by a courtier as a state sword or being offered to the Emperor as gift. Akbar is reported to have received one dhūp as gift from Deccan (vide, Abdul Aziz, Arms and Jewellery of Indian Moghuls (Lahore, 1947), pp. 7 and 35. P. S. Rawson, Indian sword, informs about a Mughal painting in the Victoria and Albert Museum, London (1. s. 112-1921) in which Jahāngīr has been painted holding a dhūp (sakēlā of Rawson).
- 44. W. Irvine, op. cit., p. 76.
- 45. This kind of sword was conferred as distinction upon successful soldiers, great nobles or court favourites. In the Bābur-nāmā illustrations, however, even common soldiers are shown wielding it vide, Razmnāmā of the Sawāī Man Singh II Museum, Jaipur, pls. 43, 62 and 65 and Tārīkh-i-Khāndān-i-Timūriā of Khudā Bux Library, Patna, ff. 12, 43, 44, 66, 69, 73 101, 140, 170, etc.
- 46. G. N. Pant op. cit. (1980) pp. 48-51, figs. 68-73.
- 47. It was the traditional sword of Orissa, cf., Egerton, op. cit., p. 104.
- 48. S. P. Verma op. cit., p. 84, pl. LVIII, figs. 13-15.
- 49. Ibid., pl. LVIII, fig. 13.
- 50. Ibid., pl. LVIII, fig. 14.
- 51. Ibid., pl. LVIII, fig. 15.
- 52. W. Egerton, op. cit., p. 104, fig. 24.
- 53. Blochmann, Ain-i-Akbari (tr.) I, pl. XII.

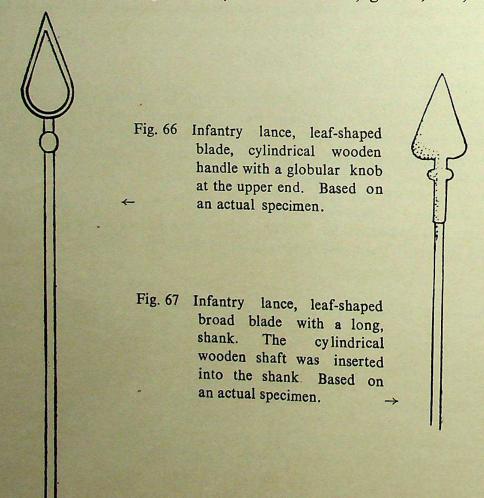
- 54. G. N. Pant, op. cit. (1960), pp. 48-51, figs. 68-73.
- 55. Ibid., pp. 66-67, figs 139-141.
- 56. G.C. Stone, A Glossary of the Construction, Decoration and Use of Arms and Armor (New York, 1961), p. 517, fig. 661, has illustrated two pulouvars.
- 57. P. S. Rawson, op. cit., p. 165, fig. 72, has wrongly called it a talwar. It is in the collection of N. A. Anderson, Copenhagen, and is an exellent pulouvar.
- 58. Vide, G.N. Pant, op. cit. (1980), p. 67, fig. 142.
- 59. Bābur-nāmā f. 97 b. tr. p. 150.
- 60. W. Irwine, op. cit., pp. 75-76.
- 61. W. Egerton, op cit., p. 117: also see Irvine, op. cit., p. 76, remark on Egerton's source.
- 62. Egerton, op. cit., pl. 1 fig. 18. The figure of shamshir given in Blochmann (pl. XII, fig. 1) greatly differs from that shown in Egerton's book.
- 63. Cf, The Jāmī-at-Tawarikh manuscript belonging to the Asiatic Society, London. Western Indian manuscripts of the 14th century A.D. depict such swords cf., Moti Chandra, Jain Miniature Paintings of Western India (Ahmedabad, 1949), pl. 138.
- S. P. Verma, op. cit., p.83, pl. LVIII, figs. 8-9.
- 65. For details see G. N. Pant, op. cit. (1980), pp. 72-78, figs. 154-165.
- The Id of Shawwal is celebrated at the conclusion of the Ramzan fast on seeing the first moon of Shawwal. in A. H. 932 it must have fallen about July 11th, 1526 A.D.
- 67. A square shawl or napkin of cloth of gold bestowed as a mark of rank and distinction.
- This Steingass explains as 'sword-belt', Erskine as "sword with a belt". The summary following shows that many weapons were given and not belts alone.
- 69. Bābur-nāmā, f. 297, tr. p. 527 f.n.
- 70. For details see G. N. Pant, op. cit. (1980), pp. 83-4, figs. 172-4.
- 71. The deciding factor of a talwar is the hilt. It generally has a short button at the top, disc pommel, oval-shaped grip, short and heavy quillons and small langets.
- 72. S.P. Verma, op. cit., p. 83, pl. LVIII, figs. 5-7.
- 73. G.N. Pant, op. cit. (1980) pp. 80-1, figs. 167-8.
- 74. Attention is drawn to the personal sosun-pattā of Aurangzēb inscribed with his name and displayed in the National Museum, New Delhi.
- 75. Bābur-nāmā, f. 190, tr. p. 303.
- 76. Ibid., f. 297, tr. p. 527.
- 77. Ibid., f. 350 b, tr p. 628.
- 78. Ibid., f. 367 b, tr. p. 662.
- 79. Ibid., f. 381 b, tr. p. 688.
- 80. Ibid., f. 382, tr. p. 689.
- 81. Ibid, f. 115, tr. p. 178. It proves that the same waist-belt could have been used for dangling the sword, inserting the dagger or sticking the arrows.
- 82. Ibid., f. 101, tr. p. 156.
- 83. Ibid., f. 343, tr pp. 612-3. The crown-cap and the golden belt were later on inherited by Bikramājit, the second son of Rāṇā Sāngā from his wife Padmāwatī. When Ratansi, the eldest son, became the Rāṇā of Chittor in place of Rānā Sāngā, he asked for them but Bikramījit refused to part with them. The Mirāt-i-Sikandarī (lith. ed. p. 234) confirms that the precious things were at Bikramijit's disposition. Perhaps they had been in his mother's charge during her husband's life. They were given later to Bahādur Shāh of
- 84. Ibid., f. 357 b, tr. p. 642.
- 85. S.P. Verma, op. cit.. p. 84.
- 86. Such buttons are seen in the swords depicted in the sculptures of Sānchī, Udaigir and Jain sculptures at Saitron in Rajasthan.
- 87. S.P. Verma, op. cit., pl. LVIII, figs. 17-19. The hilts having double knuckle-guard are quite

- 88. Gulbadan Begum, Humāyun-nāmā, tr. by A. Beveridge, Royal Asiatic Society (London, 1902), reprinted (1972), p. 124.
- 89. S.P. Verma, op. cit., pl. LXV, figs. 19-20.
- 90. For details see G.N. Pant, op. cir. (1980), pp. 123-134, figs. 364-373.
- 91. In some manuscripts the word is khachar i.e., a mule. Bābur-nāmā, f. 159, tr. p. 249.
- 92. Ibid., f. 191, tr. p. 304.
- 93. Ibid., f. 351, tr. p. 628.
- 94. Ibid, f. 352 b, tr. pp. 632-3.
- 95. Ibid., f. 357 b, tr. p. 641.
- 96. Ibid., f. 381 b, tr. p. 688.
- 97. Ibid., f. 382, tr. p. 689.
- 98. Ibid., f. 297, tr. p. 528.
- 99. Ain-i-Akbari, 1.112; W. Egerton, op. cit., p. 23, pl. I, has reproduced the illustrations of three jamadhars (Nos. 26, 27 and 32) from the original coloured drawings in the manuscript of the Ain-i-Akbari. Here these are called jamdhar (or jamadhar) but on subsequent pages the same weapon is described as katār.
- 100. For details see G.N. Pant, op. cit. (1980), pp. 162-173.
- 101. Vide, Egerton, op. cit., pl. I, figs. 26, 32, p. 23. A number of jamadhars have been reproduced by Egerton, see pls. IX, X, XIII.
- 102. W. Irvine, op. cit., p. 89, has confused the kārd with Afghan or Khyber knife. In fact both are of the same family, kārd being very much smaller in size and very fine in workmanship.
- 103. G.N. Pant, op. cit. (1980), pp. 173-4.
- 104. G.C. Stone, op. cit., p. 336, fig. 422.
- 105. Ain-i-Akbarī, III; W. Irvine, op. cit., p. 89.
- 106. Mustafa, Seir, I. 152, note. 114.
- 107. According to G.C. Stone the word khanjar is used in many countries for many different weapons. In Turkey and the Balkans it is often applied to the yātāghan. In Persia it is a double-edged dagger with a slight double curve and usually a pistol-hilt. In India it is a large double-edged dagger with a very broad base and a slight curve, op. cit., p. 351.
- 108. S.P. Verma, op. cit., pl. LVIII, fig. 3.
- 109. Ibid., p. 87. pl. LVIII, figs. 1-4.
- 110. A jewelled dagger studded with a ruby was offered to Jahangir on the 19th March, 1616 A.D., and was valued at Rs. 50,000, vide, Tuzuk-i-Jahāngīrī, tr. A. Rogers and H. Beveridge (reprinted, third edition, New Delhi, 1978), I, pp. 317-18.

# Spears, Maces and Battle-axes

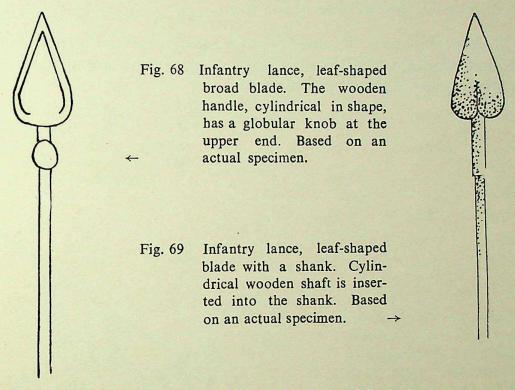
#### SPEARS

Spears<sup>1</sup> and javelins were among the most ancient weapons and were specially favoured by the horsemen (figs. 66-106). The attendants, guards, etc., of Bābur's



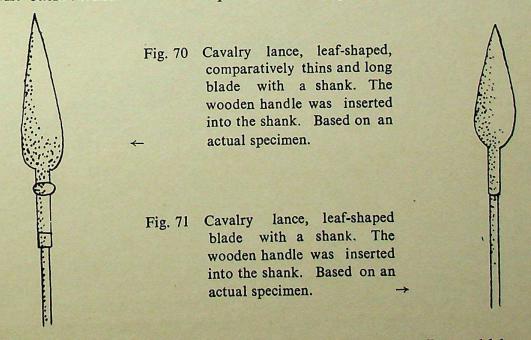
army and those employed in the court carried the spears as a part of royal paraphernalia. Numerous forms of these weapons are seen in the illustrations of the

 $B\bar{a}bur-n\bar{a}m\bar{a}^2$  and the  $\bar{A}in-i-Akbar\bar{\imath}^3$ , which can easily be compared with the actual specimens preserved in the museums. These include the  $bh\bar{a}l\bar{a}$ ,  $n\acute{e}z\bar{a}$ ,  $barachh\bar{a}$ , tschehoute,  $s\bar{a}k$ ,  $sel\bar{a}r\bar{a}$ , and bullam. Spear, in fact, is a long shafted weapon



intended solely for thrusting. It is a class name and includes many named and unnamed thrusting weapons.<sup>4</sup> The difference between all these variants is so narrow and their depiction in the miniature paintings is so vague that one is often mistaken for the other.

The basic Arabic term for a spear or lance (figs. 70, 71) was ruhm. This was



traditionally considered a horseman's more reliable weapon. It could be made of

reed or solid wood, and might also be held in one or both hands or was couched under the arm. The longest spears would probably have been of bamboo, reed or cane since these provide the longest available shafts. There are many technical terms describing the various parts of the spear.

During the 14th and 15th centuries heavy spears were considered characteristic of Muslim horsemen (fig. 72) while smaller, barbed and occasionally poisoned varieties were typical of the Hindu warriors.

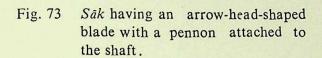
Fig. 72 Excerpt from the illustrated manuscript of Bābur-nāmā depicting a fully armoured cavaliar riding a war-horse. In his raised right hand the soldier carries a long cavalry lance while a qirbān with a bow, a sword inside a sheath and a quiver filled with arrows are tied round the waistbelt. Mughal, 1598 A.D. (National Museum, New Delhi)

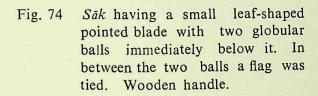


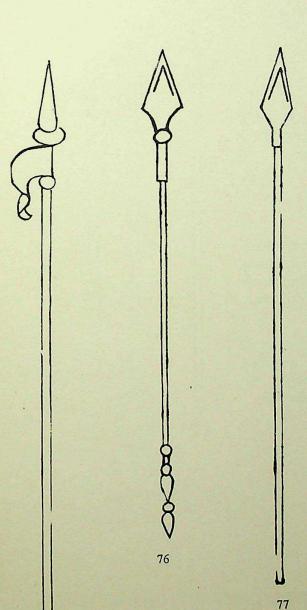
## Bhala

It consists of a long wooden or bamboo shaft with a long and pointed iron blade. The blade, generally leaf-shaped, is with or without a medial-rib and has a hollow shank into which the shaft is inserted.<sup>5</sup> It is a thrusting weapon and was seldom hurled. It was generally used by the foot-soldiers and operated with both hands (figs. 66 to 69).

74







75

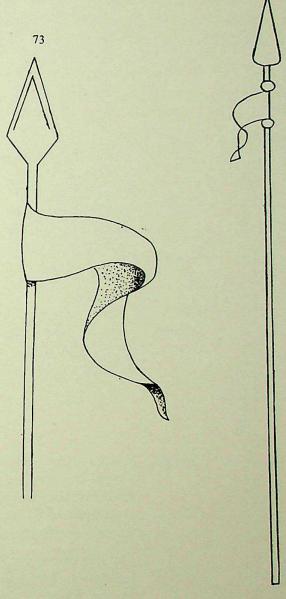


Fig. 75 Sāk, similar to No. 74 described earlier. An additional semi-circular support is given to the blade.

Fig. 76 Nèzà comprising a small arrowhead-shaped blade of steel with a shank fitted to a long bamboo or wooden shaft. It was a cavalry lance. Lower part is ornamented.

Fig. 77 Nezā similar to No. 76 described earlier. The lower part of the shaft is plain.

74

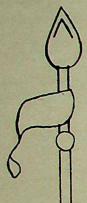
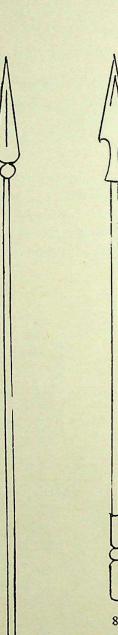


Fig. 78 Selārā, the leaf-shaped blade has a pennon tied to the shaft immediately below it. The lower end of the shaft bears a diamond-shaped blade. The weapon could be used from both the sides.

Fig. 79 Javelin, light and handy, thin leaf-shaped blade. It could have been hurled on the enemy.

Fig. 80 Javelin, light and handy, leaf-shaped blade with a shank. It was hurled on the enemy. The horse-rider preferred it since it was easy to carry and to throw.

(All these three varieties are based on the actual weapons preserved in the reserve collection of the National Museum, New Delhi)



79

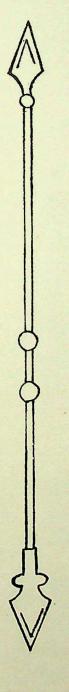


Fig. 81 Barachhā completely of steel having blades at both ends with a central grip. It was held from the middle and then harled. Since it was entirely of metal it was not very bght.

Fig. 82 Selārā same as No. 76 described on the previous page. There is no pennon tied to the shaft. The upper edge is leaf-shaped while the lower blade is tringle-shaped.

### Neza

It comprises a small arrow-head-shaped blade of steel fixed to a long bamboo shaft. It was a cavalry lance<sup>6</sup> (figs. 76, 77). Its blade resembled a  $bh\bar{a}l\bar{a}$ .<sup>7</sup> The  $n\acute{e}z\bar{a}$  (or  $niz\bar{a}h$  or  $nez\bar{a}$ )<sup>8</sup> of Persian and Turkish horsemen were shorter than those of the Arabs.

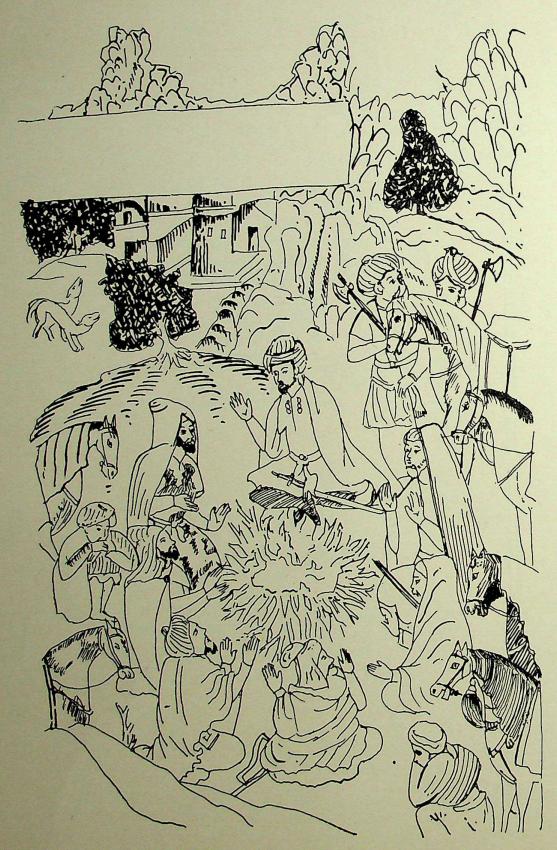


Fig. 83 Bābur warming before a camp fire. This painting of a night scene shows Bābur's qualities of leadership; his concern for his men and comradely treatment he gave them in times of adversity. The soldiers are armed with swords and battle-axes (from the Bābur-nāmā).

## Barachha

It was a lance with the triangular, quadrangular, pentagonal, hexagonal or even octagonal blades. The iron shaft was small with a long tapering but thin and pointed blade. Sometimes there was a grip in the centre to hold it and occasionally there was a knuckle-guard at the grip (fig. 81).

## Tschehouta

It was a lance with blades on both ends. Its blades were of different patterns.9

#### Sak

It had a small leaf-shaped pointed blade with two globular balls immediately below it. In between the two balls a flag was tied.<sup>10</sup> The handle of wood had a metallic pointed cap at the lower end (figs. 73 to 75).

### Selara

It was like a barachhā with a grip in the centre from where it was held (fig. 78). It had blades on both sides. The upper blade was slightly broader and the lower blade thinner—both generally triangular<sup>11</sup> (fig. 82).

#### Ballam

It was a short spear with a broad head<sup>12</sup> ornamented with brass. It was used mainly by the infantry.<sup>13</sup> The blade was shaped like a large leaf fixed to a steel or wooden shaft.<sup>14</sup>

#### Javelin

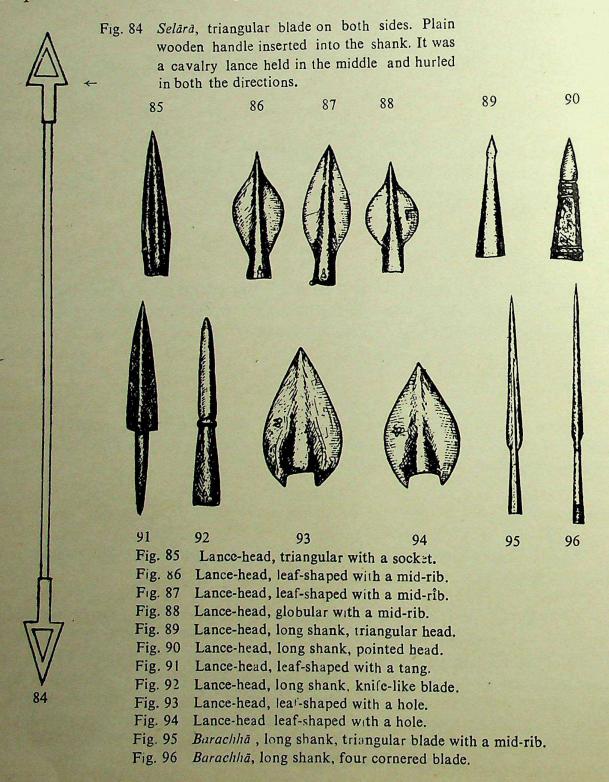
The javelins<sup>15</sup> were used throughout. It was a throwing spear; light and handy (figs. 79, 80).

In 1496 A.D. Bābur had struck a spear in the neck of Sl. Ahmad Tambal at Farghānā but he could not be unhorsed. In 1505 A.D. Kichik Khwājā, a brave soldier of Bābur, tried to capture the fort of Qalāt in Kabul. Says Bābur, "He now clambered up the south-west lower of Qalāt, was pricked in the eye with a spear almost up, and died of the wound two or three days after the place was spear almost up, and died of the wound two or three days after the place was taken." Muhd. Alī Jung and his younger brother Naoroz were responsible for climbing the ramparts of the fort of Bājaur in Kabul in 1519 A.D. by ladders and then capturing it with their spears.

Bābur narrates one of his tiger hunting experiences in which Khalwī, a foot-soldier, pricked a tiger, with his spear it bit the spear and broke-off the spear-head.<sup>19</sup>

The famous lance player of Bābur's time was Abul Muhammad.29

The cavalrymen held the spear in their right hand (fig. 97); while attacking the spears were held at arm's length above their heads (fig. 72). For a stronger grip,



the cavalry lances were fastened with knobs or rings at the centre of the shaft.

The metallic caps, knobs, pinnacles, etc., were fitted at the lower end of the shaft to make it firm.

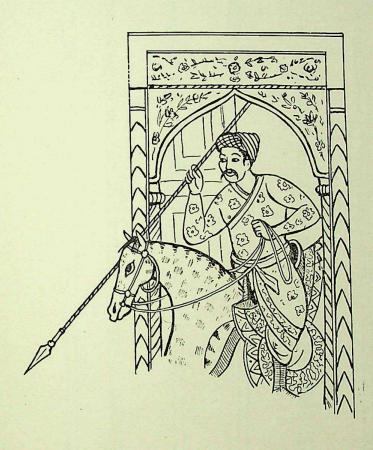


Fig. 97 Excerpt from the illustrated manuscript of the Bābur-nāmā depicting a cavalier carrying a long nēzā in his right hand and with his left he holds the reins of the war-horse. The nēzā is held from the middle and is ready to pierce the enemy. Mughal. 1598 A.D. (National Museum, New Delhi)

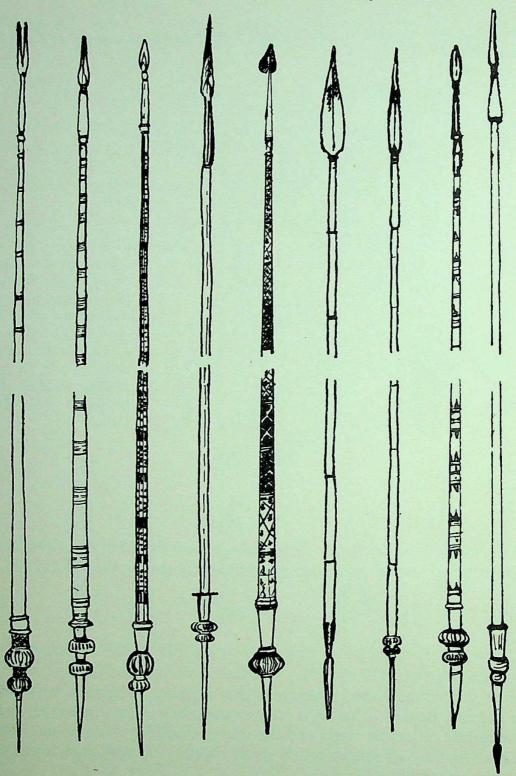
In Zafar-nāma<sup>21</sup> of Timūr the Arab lances were prized by the warriors. Timūr had distributed several arms together with spears among the Muslims of Ajmer.

# Mace (figs. 107 to 121)

The mace was essentially an anti-armour (figs. 107 to 109) and specially helmet breaking weapon (figs. 110 to 114). It is found more often among the Muslim warriors who habitually used large amount of armour. Iranian cavalry had used heavier defences than most of their contemporaries. The medieval mace was almost certainly of Indian origin and the readiness with which these maces were adopted in Ummaiyyad armies clearly prove that the Islamic forces from the very beginning were heavily armoured.

The two mace-wielders who accompanied Bābur during his early days were Abul Qāsim and Mīr Shāh Quchin. Both of them fought well in a battle at Farghānā in 1497 A. D..<sup>22</sup> In Timūr's time we hear of mace-bearers riding on horses with golden saddles.<sup>23</sup>

In the Bābur-nāmā illustration a rich variety of maces are seen.



99 100 101 102 103 104 105 Bamboo shaft with the lower part covered with brocade. Length 10 feet, 4 inches. Fig. 98 Parade lance. Shaft of short ivory cylinders joined by gilded metal bands. Length Fig. 99 10 feet. 7 inches. Fig. 100 All steel. Shaft is hexagonal. Length 8 feet, 8 inches Fig. 101 Head inlaid with gold and butt with silver. Wooden shaft lacquered red Fig. 102 Parade lance. Shaft of pieces of ivory. Head and butt chased and inlaid with silver. Cylindrical shaft covered with leather with narrow silver bands. Plain butt. Length Fig. 103 7 feet, 11 inches Bamboo shaft triangular grooved head, simple steel butt. Length 6 feet, 10 inches Fig. 104 Fig. 105 Ivory shaft. Leaf-shaped head, gilded butt

Fig. 106 Bamboo shaft. Plain steel head and butt. Length 12 feet, 4 inches

# Shashpar

The shashpar can be defined as a mace with six flanges on it<sup>24</sup> (fig. 107) (shash= six, par=sides, i.e., an iron rod made with six sides). Babur has casually mentioned

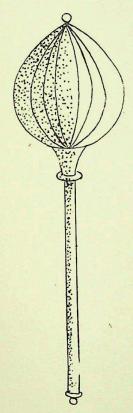


Fig. 107 Shashpar having six flanges surmounted by a knob. A short handle of iron was attached to it. It was found very useful in breaking the helmet or the skull of the enemy.

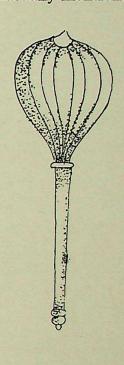


Fig. 108 Shashpar having six flanges.
A short handle of iron was attached to it. This weapon was specially meant for smashing inside a helmet or a body armour.

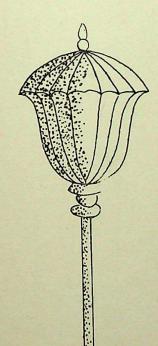
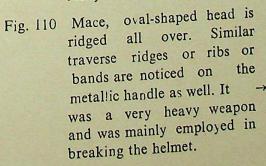
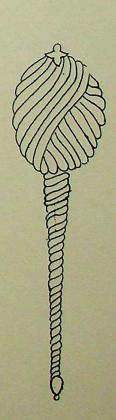


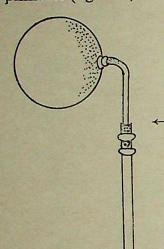
Fig. 109 Shashpar having six flanges.
The head is bell-shaped like a tulip flower. A short handle of steel, with two globular knobs at the upper end is attached to it. It could easily break a helmet.



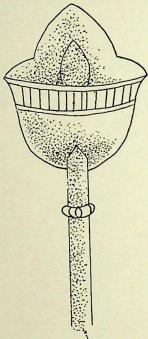


it in his memoirs as shash-bur (fig. 108). Blockmann translates it as shash=lung,

bur-tearing i.e., lung-tearer) which seems incorrect 25 (fig. 123). It was short handled club with a single globular head on the top of which was mounted a knob or pinnacle (fig. 109). It was called shashparī<sup>26</sup> during Jahāngīr's time. In one



longer having a Fig. 111 Kistin handle to the end of which a sphere was attached by a chain or a string like the athletes' throwing hammer. resembles a flail. It required special skill and power to wield it.



heavy and strong Fig. 112 Mace, bell-shaped handle, namented head. It was found suitable in breaking the helmet or in smashing a heavily armoured enemy.

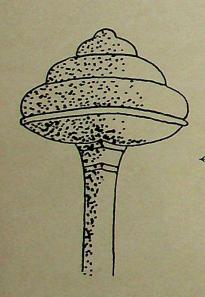


Fig. 113 Mace, having strong and heavy handle and a head consisting of three tiers, one upon the other, gradually tapering upwards. It was a very heavy and strong armour-breaking weapon.

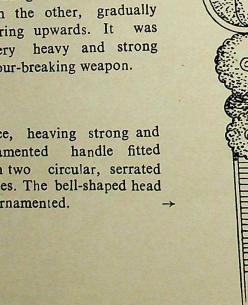


Fig. 114 Mace, heaving strong and ornamented with two circular, serrated plates. The bell-shaped head is ornamented.

miniature painting a Mughal soldier has been painted carrying a shashpar with 5 feet long handle<sup>27</sup>(figs. 107, 108, 109).

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# Piyazi

It was so called because the end was large and spherical like an onion  $(piy\bar{a}z)^{28}$ . It was a straight mace with foliated surfaces. Beveridge<sup>29</sup> describes it as a rugged mace, having many craggy, uneven projections (figs. 118, 119).

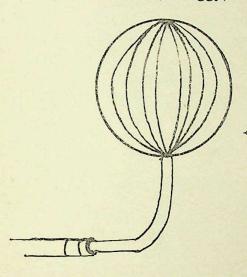


Fig. 115 Kistin, cylindrical handle to which is attached, with a chain, a head bearing flanges or transverse bands.

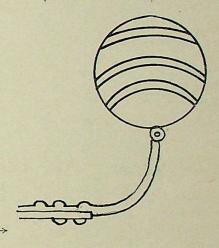


Fig. 116 Kistin, globular head with three semi-circular bands attached to a handle by a chain.

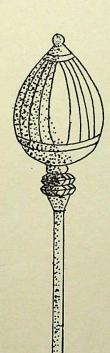


Fig. 117 Shashpar, flanged, ovalshaped head, cylindrical handle. The head is ridged and looks like an onion. The handle is ornamented.

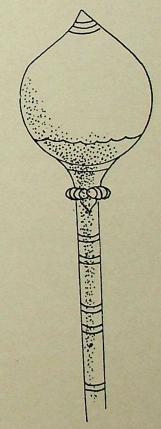


Fig. 118 Piyāzī, the oval head shaped like an onion (piyāz) with a long heavy ridged handle. The heavy head was found specially suitable for breaking the helmet and the armour.

### Kistin

It had a longer handle, to the end of which the sphere was attached by a chain or a string like the athlete's throwing hammer<sup>30</sup>. The sphere was similar to that of shashpar (fig. 116). It could be plain or with flanges or transverse bands around

it (fig. 116). The head, trifoliated (fig. 121) or cusped like an arch, with eight sides, was used (fig. 120). The kistin resembled the mace called a flail (fig. 115)

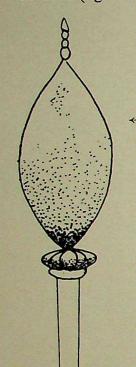
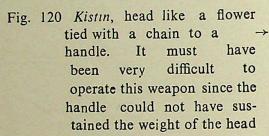
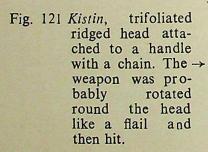
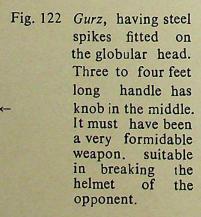


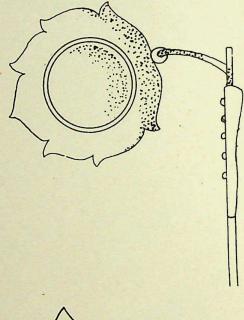
Fig. 119 Piyāzī, oval-shaped head with four tiny knobs. It is attached to a cylindrical rod. A moulded flower design is seen between the shaft and the head. Drawn from the paintings of the Bāburnāmā.

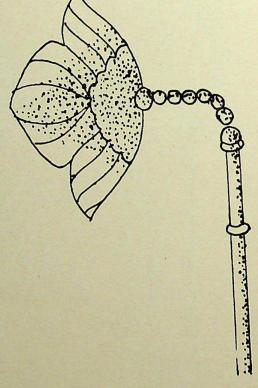


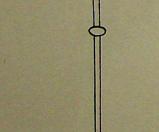




(All these figures have been drawn from the illustrated manuscripts of the Mughal period. After S.P. Verma)





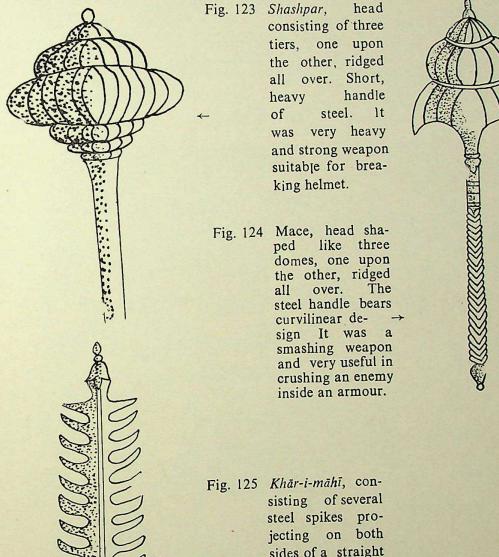


reproduced from the Ain-i-Akbarī by Egerton<sup>31</sup>. The latter has a hexagonal ball

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attached to a handle with a chain (fig. 121). The flail could be furnished with two balls attached separately by the chain to a handle. A specimen is given by



sisting of several steel spikes projecting on both sides of a straight handle. It looks like a harpoon.

The metallic handle is plane and cylindrical.

(All these figures are drawn from the Mughal miniature paintings. After S.P. Verma)

Egerton.<sup>32</sup> Blochmann gives no figure of it.

The relative difference in the shashpar, piyāzī and kistin is made clear by Bābur himself who records that of the arms there are the shashpar, (six-flanged mace),

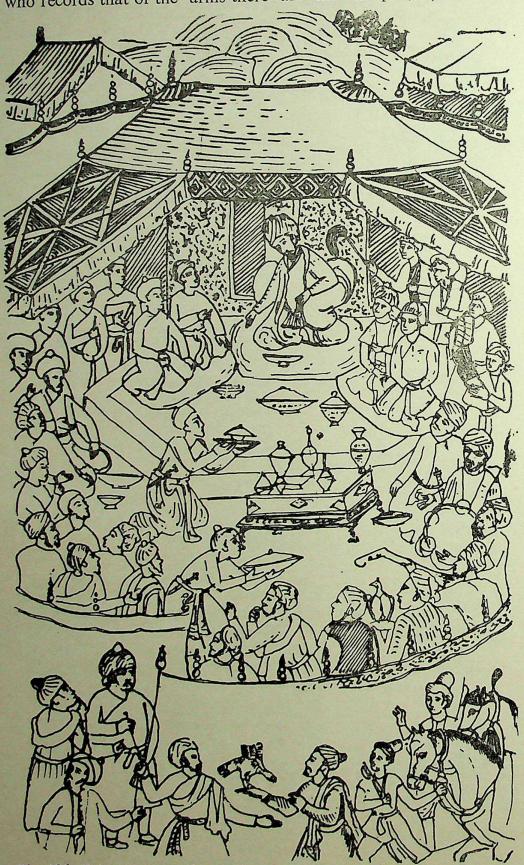


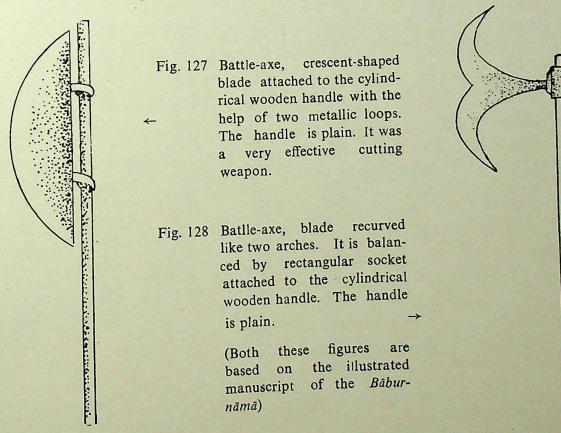
Fig. 126 Bābur met the Mirzās of Khurāsān in 1526 A.D. Drinks and food were served in gold silver cups. Soldiers here are guarding the tent. From the Bābur-nāmā.

the  $piy\bar{a}z\bar{\imath}$  (rugged-mace), the kistin, the tabar-zin (saddle hatchet) and the  $balt\bar{u}$  (battle-axe) "all, if they strike, work only with what of them first touches, but the sword, if it touches, works from point to hilt".

### Gurz

It had the steel spikes fitted on the globular head (fig. 122). The steel handle was three to four feet long with head three inches in diameter.<sup>34</sup> Sometimes a spike (generally octagonal or leaf-shaped and pointed) was affixed on the top. The following variants are noticed:

- (i) Gurz with a single head having six, eight or ten blades (or sides) emerging out of it.
- (ii) Having two or three heads, one above the other, each bearing six to eight spikes. Sometimes both the heads were of equal sizes but generally the central head was bigger and the second and third, on the upper side, were gradually reduced.
- (iii) Sometimes the gurz was fitted with a small axe, just near the head.



(iv) It was adopted by the Marathas in the 17th century and soon became their most coveted weapon. The Maratha gurzs are invariably fitted with the basket hilt at the lower end of handle. These were called gargaz but the two words (gurz and gargaj or garguj or gargaz) have hardly been differentiated.

Abul Fazl states that the price of a gurz ranged from one rupee to five muhars35.

### Khar-i-mahi

It consisted of several steel spikes projecting on both sides (fig. 125) of a straight handle.<sup>36</sup> It has been mentioned in the  $\overline{A}in$ -i- $Akbar\overline{\imath}^{37}$  but it does not seem to be a regular weapon of the Mughal soldiers.

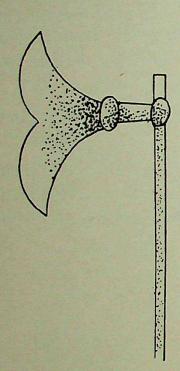


Fig. 129 Batlle-axe, blade, serrated like two arches, has a globular knob near the tang. It is balanced by a circular knob attached to a wooden handle.

The handle is plain.

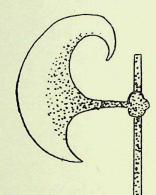


Fig. 130 Battle-axe, crescent-shaped blade, one end deeply curved.

It is balanced by a globular socket attached to a wooden handle.

(Both these figures are drawn from the illustrated manuscuript of the *Bābur-nāmā*)

The handles or shafts of the maces were usually ornamented with embossed rings, spheres, bands, etc. The shafts of metal were round, four-sided, hexagonal or octagonal with a button or knob at the end. The shafts of bamboo or of wood

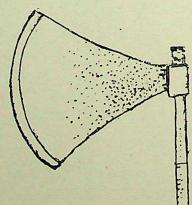
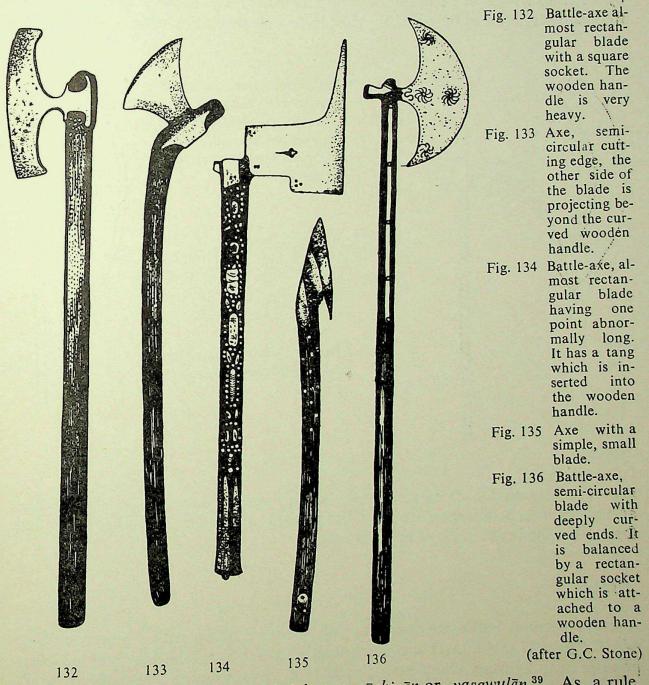


Fig. 131 Axe, plain, semi-circular blade balanced by a square socket attached to a cylindrical wooden handle.

were invariably round. Trifoliated or cusped forms attached with balls were ornamental or ceremonial pieces, seldom used in actual warfare. Sometimes we hear of maces made entirely of gold or silver.<sup>38</sup>

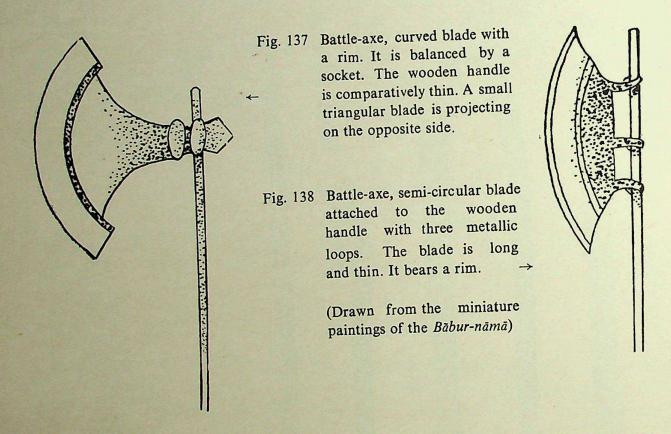


The mace-bearers were called *chobdars*, *tawachiyan* or *yasawulan*.<sup>39</sup> As a rule, the royal attendants carried the mace. The horsemen wielded the mace casually specially in hand-to-hand fighting<sup>40</sup> or to break fortified doors.

Shāh Jahān had bestowed one mace of gold on Hājī Beg. Tavernier presented to Aurangzed one battle mace of rock crystal of which the sides were covered with rubies and emeralds and inlaid with gold.<sup>41</sup>

# Battle-axe (figs. 127 to 155)

War-axes were of all sizes from light weapons intended solely for thrusting to heavy pole axes requiring the use of both arms. The blade is generally balanced by a hammer head or point on the opposite side of the handle, and the latter is frequently terminated by a spike. Most have a single cutting edge though double



axes were also used.<sup>42</sup> Occasionally they had a dagger concealed in the handle, and sometimes, a sharpened hook projected from one side. This was intended for cutting the bridle reins of an opponent.

#### Tabar

It was a simple battle-axe consisting of a curved blade with a broad cutting edge<sup>43</sup> (figs. 127 to 136). It was the commonest form of the axe and has been popular in India from a very early period.<sup>44</sup> In it the wooden or bamboo shaft was inserted into the socket of the blade. The sharp-edged blade was semi-circular.<sup>45</sup> It had many variants<sup>46</sup> i. e., sometimes the two ends of the blade were sharply curved inside, almost touching the shaft, while in some cases there was a big distance between the edge and the shaft. The socket again was round, square or rectangular. Sometimes the shaft projected very little and at times a few inches above the head.

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The size of the blades varied from 18 to 23 cm. and were sometimes 38 cm. in

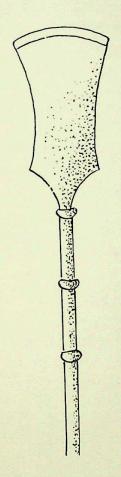


Fig. 139 Axe of the holy men, peculiar head, the wooden handle has knobs.

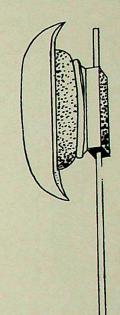


Fig. 140 Battle-axe, crescent-shaped head with a rim. A cylindrical socket is attached to a wooden handle.

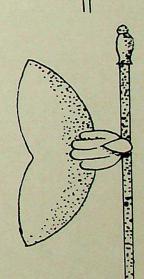
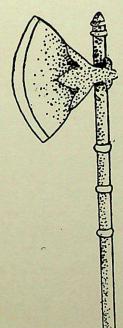
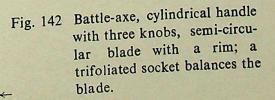


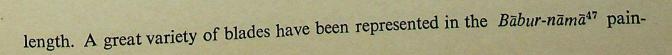
Fig. 141 Battle-axe, bowl-shaped blade



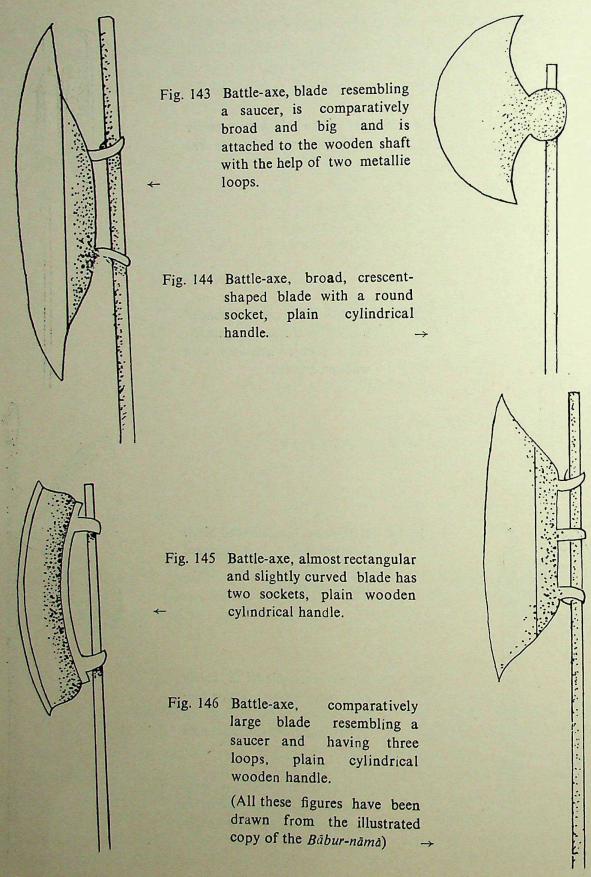
recessed inside. It is balanced by a leaf-shaped socket bearing plane design.



(All there figures have been drawn from the illustrated manuscript of the Bābur-nāmā and others)



tings. These are curved like an arch or double curved or have a circular depressi-



on in the middle. In a few cases the upper half of the blade is elongated.48

At the Windsor Palace, London, is a processional axe of silver with twisted handle, 2 feet, 10½ inches long. The blade is broad and engraved with raised pattern of grapes and vine leaves. It can be compared with the ceremonial battle-axe dis-

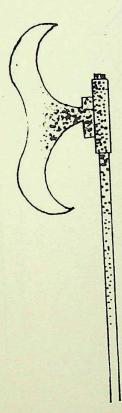
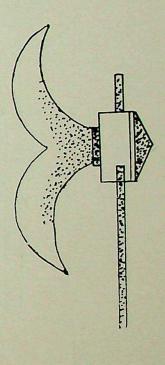


Fig. 147 Battle-axe, blade like two arches, rectangular cylindrical socket, plain handle. There is an additional plate with which the blade is affixed to the handle.

Fig. 148 Battle-axe, recurved blade like two arches, rectangular heavy socket, plain cylindrical handle. A triangular blade is projecting on the opposite side (Both these figures have been drawn from the illustrated manuscript of the Baburnāmā)



played in the British Museum, London, which was brought in that Museum in 1836 A. D. from the last ruler of Delhi. It was one of the twelve battle-axes that were carried before Akbar.49

# Ankusha (figs. 251 to 258)

It was the common elephant-goad though Abul Fazl has included it into the category of weapons. The Ain-i Akbarī records, "The añkusha is a small crook. His Majesty calls it gajbāga. It is used for guiding the elephant and stopping him."50 The other implements used for elephants were gad and jagāwat. The gad<sup>51</sup> was like a two-pronged spear used for piercing the elephant. Jagāwat, used to quicken the speed of the elephant and also to make him active, comprised a round peg having a depression in the middle and fixed horizontally to a small shaft.<sup>52</sup>

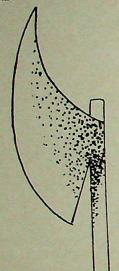


Fig. 149 Battle-axe, curved blade having one end raised upwards, rectangular socket, plain wooden handle.

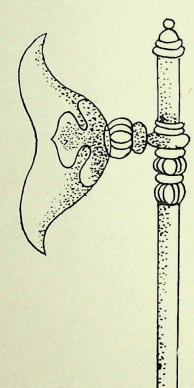


Fig. 150 Battle-axe, handle ornamented with ridges and floral design.

Vase-shaped blade is embellished at the lower end with a trifoliated design, a ridged knob and a cricular ball.

Round socket is attached to the wooden handle.

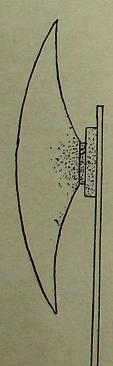
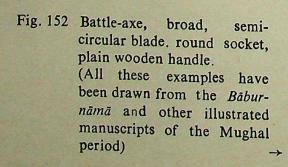
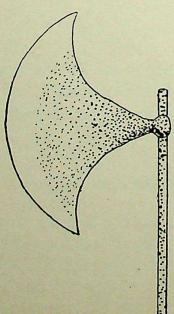


Fig. 151 Battle-axe, long and broad, semi-circular blade, rectangular socket, plain wooden handle.





When used by a man riding on the elephant the handle is comparatively short and the hook varies much in size; when carried by a man walking beside the elephant the handle is about five feet long and the hook always small.

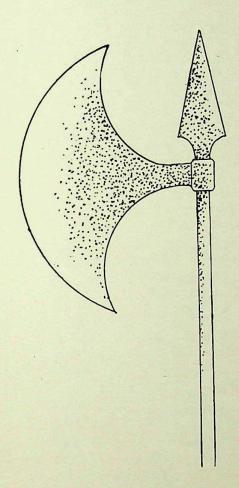


Fig. 153 Tarangāléh, cutting edge is semi-circular and similar to a tabar with square socket and plain wooden handle. Its pinnacle is like a shaped The spear-head. weapon could be used both for cutting like an axe and piercing like a spear. Based on specimen, actual Mughal. (National Museum, New Delhi collection)

añkusha solely for use were plain (figs. 255, 256, 258), but the ones for display were chiselled (fig. 252) and have handles of ivory (fig. 253) or are covered with goldsmith's work and jewels. They vary in length from about 15 inches to nearly 4 feet.53

# Tarangala

The blade of the axe designed with aspear head is called tarangāla<sup>54</sup> or tarangāléh (fig. 153). Its cutting edge is similar to that of a tabar but the pinnacle is shaped like a spear-head. It could thus have been used both for cutting and piercing.

# Jaghnol

It contained a steel handle and the head was thick and shaped like a leaf or beak of a bird<sup>55</sup> (fig. 156). It had cutting edges on both the sides and a thickened point which was found very useful in piercing a helmet or a coat of mail.<sup>56</sup> It is not represented in the  $B\bar{a}bur-n\bar{a}m\bar{a}$  although actual specimens of Mughal period are preserved in the museums of India.

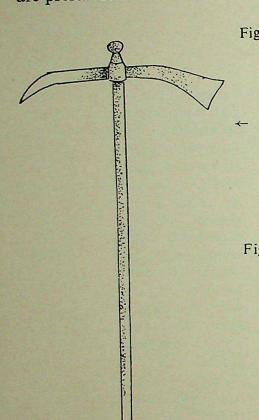
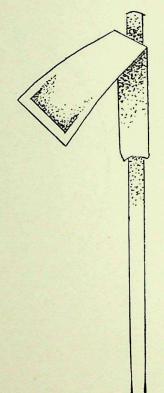


Fig. 154 Tabar-jaghnol a conbination of tabar and jaghnol. On one side is a semi-circular blade and on the opposite side is a spike. The cylindrical wooden handle is inserted into the round socket. Based on an actual specimen National Museum, New Delhi collection)

Fig. 155 Busolā similar to the carpenter's adze. In one of the panitings of the Bābur-nāmā it is used for breaking the doors of the fortress. It has a -> plain handle. The almost blade, rectangular, down. drooping from the Drawn illustrated manuscript of the Bāburnāmā.



# Tabar-Jaghnol

It was a combination of tabar and jaghnol hence the name (fig. 154). A double-headed axe with a pointed blade like that of the jaghnol on one side and opposite to it, one similar to that of the tabar, is rarely depicted in the Bābur-nāmā.<sup>57</sup> In the Sawāi Mān Singh II Museum, Jaipur, is displayed a Mughal tabar-jaghnol of 17th century.

#### Chisel-like axe

It was the axe of the holy men and consisted of a chisel-like blade attached vertically to a long handle (fig. 139)..56

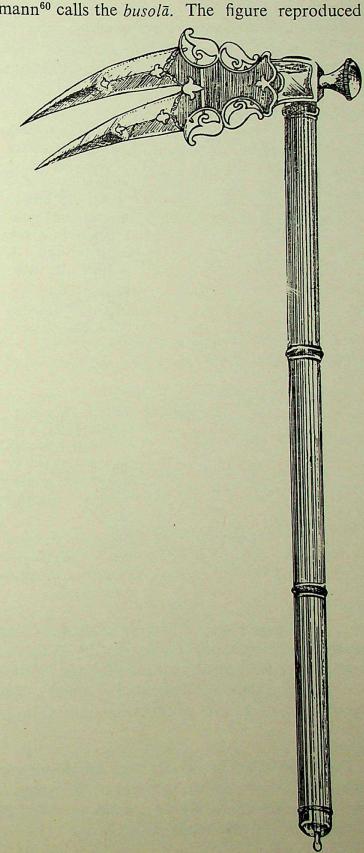
#### Busola

This axe was similar to the carpenter's adze, called the  $busol\bar{a}^{59}$  and in one of the paintings of the  $B\bar{a}bur-n\bar{a}m\bar{a}$  it is used in breaking the doors of a fortress. It

has a straight handle, the blade almost rectangular, is drooping gown (fig. 155). This is different from what Blochmann<sup>60</sup> calls the  $busol\bar{a}$ . The figure reproduced

Fig. 156 Jaghnol, steel handle ridged all over and has two knobs. It is first laequered and then painted all over beautiful with curvilinear lines. The heavy blade, bifurcated like the beaks of a bird, is tastefully ornamented with mouldings, socket. square A globular steel knob is affixed on the opposite side of the blade. The weopon was found very suitable in piercing a chain armour or in making a hole once hit fiercely on the helmet of the opponent. Based on an actual speciemen.

(National Museum, New Delhi collection)



by him looks more like a chisel than any other tool.

### Tabar-zin

Bābur has incidentally mentioned the tabar-zin <sup>61</sup> (saddle-hatchet). Egerton does not speak of it. It is called chamkhāq, chakhmāq, chakhmagh—a battle- axe fastened to the saddle. <sup>62</sup> The presumably smaller and more specialised tabar-zin

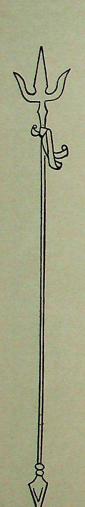
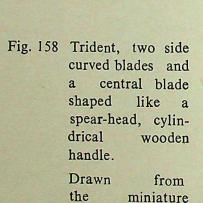
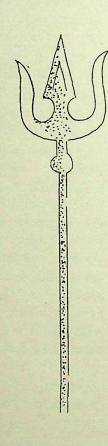


Fig. 157 Trident (trisula), having two curved side blades and a straight central blade. An arrowhead-shaped blade is attached at the opposite end. A pennon is tied.

Drawn from the miniature painting of the Bābur-nāmā.





or saddle-axe was known in early Islam and became very popular with the Māmluk cavalry in the 13th and Mughal cavalry in the 16th century A. D. It, however, continued to be a cavalry weapon till the 18th century. Its blade was generally narrower than that of the essentially infantry tabar. Persian influence lay behind the growing popularity of this tabar-zin in Mughal India.

paintings of the

Bābur-nāmā.

The shafts of the battle-axes were simple occasionally mounted with metallic caps or knobs or pinnacles on both ends. The blades were also somtimes ornamented. The battle-axes made of gold and silver, embellished with embossed patterns were displayed by the attendants in the court.

The shafts of these axes measured generally 3 to 4 feet, head of the axe 3 to 4 inches horizontally and 5 to 6 inches vertically.<sup>63</sup>

In certain cases a dagger (guptī) was concealed inside the hollow handle.

#### Conclusion

Despite the fire-arms becoming more and more popular the Mughal soldiers never altogether abandoned the use of maces, battle-axes or staff weapons. A number of foot-soldiers and cavaliers portrayed in the illustrations of the Baburnāmā carry one or more of these weapons. Several actual specimens displayed in the museums of India bear tetimony to the fact that though the use of pole-arms and smashing weapons declined with the arrival of fire-arms yet they retained their place in some form or the other in the hall of audience as a royal emblem; as a present to or from the emperor; as a ceremonial piece; as a work of art and craft and, of course, as a weapon during emergency.

#### REFERENCES

- 1. Under the heading of 'spears' come all those cavalry and infantry hafted weapons that were primarily designed for thrusting rather than lateral cutting and which were not normally thrown as javelins.
- 2. M.S. Randhawa, Paintings of the Bābur-nāmā (National Museum, New Delhi, 1983), pl. III.
- 3. Blochmann, Ain-i-Akbari (tr.), reprinted (Delhi, 1965), pl. XII, figs. 16 to 20.
- 4. G.C. Stone, A Glossary of the Construction, Decoration and Use of Arms and Armor, reprinted (New York, 1961), pp. 572-7, figs. 738-746.
- 5. G.N Pant, Studies in Indian Weapons and Warfare (New Delhi, 1970), p. 158, pl. XVIII.
- 6. S.P. Verma, Art and Material Culture in the Paintings of Akbar's Court (New Delhi, 1978), p. 88, pl. LIV, figs. 5, 6.
- 7. In a miniature painting, displayed in the Archaeological Museum, Red Fort, Delhi, entitled, "Dārā Shikoh on the March" (Mughal, 18th century), many soldiers, both foot-soldiers and cavaliers, are depicted carrying spears and other staff weapons; vide, G.N. Pant, op. cit., (1970), p. 118, pl. XVIII.
- 8. Hindustani-English Dictionary, p. 386; W. Irvine says, "Bhālā, I take to be only the Hindi equivalent for nezāh," Army of the Indian Moghuls, reprinted (New Delhi, 1962), p. 82.
- 9. It has been reproduced from the Ain-i-Akbari by Egerton, op. cit., pl. I, fig. 12. Blockman and Irvine have made no mention of tschehoutā.
- 10. S.P. Verma, op. cit., pl. LXI, figs. 8, 10.
- 11. Ibid., pl. LXI, fig. 3.
- 12. G.C. Stone, op. cit., p. 89.
- 13. W. Egerton, Indian and Oriental Armour, reprinted (London, 1968), p. 123. It was very popular with the foot-soldiers of Hyder Alī and Tīpū of Mysore in the late 18th century.
- 14. S.P. Verma, op. cit., p. 88, pl. LXI, figs. 11-13.
- 15. One certainly heavy, and possibly barbed, javelin that was wide spread among the pre-andearly Islamic Arabs was the harbah which remained in favour among the Bedouin at least until the 12th century. Heavier armour and more effective shields probably account for a greater variety of armour-piercing javelins of the 12-13th centuries. These included the darariy, where the blade formed one-third of the entire weapon and which probably relied on

its weight to achieve a result. The *mizraq* and *nayzak* both seem to have been lighter and to have had long, slender blades of square section. While the *mizraq* may have been solely an infantry weapon, the *mizraq* was used by both foot-soldiers and horsemen. *Mitrās* or *mitrād*, almost similar to *mizrāq*, was very pointed and specially designed to penetrate armour and shields.

- 16. Bābur-nāmā translated by A.S. Beveridge, reprinted vols. I and II in one format (Delhi, 1979), f. 39 b, tr. p. 67.
- 17. Ibid., f. 158, tr. p. 248.
- 18. Ibid., f. 917 b, tr. p. 370.
- 19. Ibid., f. 232b, tr. p. 393.
- 20. Ibid., f. 329, tr. p. 582. In a beautiful miniature painting (Mughal, 1740 A.D.) Shāh Jahān has been portrayed standing on an octagonal simhāsana (throne like thing). He is holding an abnormally long spear in his right hand. Army operations are seen in the background. Vide, G.N. Pant, op. cit. (1970), p. 120, pl. XIX.
- 21. Abdul Aziz, Jewels and the Arms of the Indian Mouguls, p. 10.
- 22. Bābur-nāmā, f. 40, tr. p. 78.
- 23. G.N. Pant, op. cit. (1970), pp. 155-6.
- 24. S.P. Verma, op. cit,, p. 90, pl. LXII, figs. 1, 5.
- 25. Blochmann, op. cit., I, p. 117, pl. XII, figs. 21, 23.
- 26. Tujuk-i-Jahāngīrī, tr. by Rogers and Beveridge, reprinted (Delhi, 1978), I, p. 311.
- 27. G.N. Pant, op. cit., (1970), p. 169, pl. XXXVII.
- 28. S.P. Verma. op. cit., p. 99, pl. LXII, figs. 3, 12, 13.
- 29. A,S. Beveridge, op cit., I, p. 160.
- 30. S.P. Verma, op cit., p. 90, LXII, figs. 7-11.
- 31. Egerton, op. cit., p. 23.
  - 32. Ibid., p. 125, pl. X.
  - 33. Bābur-nāmā, f. 103, tr. p. 160-1.
  - 34. Cf., G-N. Pant, op. cit., (1970), p. 180, pl. LII.
  - 35. The Marāthā mace-bearers marched in between the king and the artillery. It consisted of a pike, rectangular in section, and a head of seven or more leaves of acanthus design. The iron rod had a knuckle-guard at the lower end. In certain cases the head was tripped with a quardrangular arrow-head of steel, vide, G.N. Pant, op. cit. (1970), p. 180.
  - 36. S.P. Verma, op. cit., pl. LXII, fig. 25.
- 37. Blochmann, op. cit., I, p. 118, pl. XIII, fig. 37.
- 38. Rogers and Beveridge. op. cit., I, p. 311.
- 39 Ibid., II, pp. 8, 14.
- 40. M.S. Randhawa, op. cit., p. 24, pl. IV.
- 41. G.N. Pant, op. cit. (1970), p. 156.
- 42. G.C. Stone op. cit., p. 79.
- 43. S.P. Verma, op. cit., p. 89, pl. LVI, figs. 16-17.
- 44. It is depicted in the sculptures of Sanchi and Udaigiri.
- 45. G.N. Pant, op. cit. (1970), p. 157, figs. 1-2.
- 46. Figerton has illustrated nine different kinds of tabar, vide, pp. 82, 108, 137, 144, fig. 17, pls. X. XIV:
- 47. S.P. Verma, op. cit., pl. LXI, figs. 19-36.

- 48. These tabars were often highly decorated yet the worn appearace of certain surviving specimens indicate that, at least during the early Mughal period they were real fighting weapons.
- 49. W. Egerton, op. cit., p. 108, note to No. 375. The *tabar* described here is from Jodhpur (length 2 feet, 1 inch, head 6 inches × 3 inches). Its blade and the upper part and butt-end of the shaft are ornamented with gold damascening. The middle of the shaft is spirally twisted and covered with silver plate.
- 50. Blochmann, op. cit., p. 136, pl. XIII, fig. 39.
- 51. On folio 248 of the Akbar-nāmā of the Chester Beatty, Dublin Collection a few attendants are trying to control an elephant with gads.
- 52. Ibid., f. 326.
- 53. G.C. Stone, op. cit., p. 8, figs., 14, 15. A few elephant-goads of the Mughal period with ivory handle are exhibited in the Gallery of Arms and Armour, National Museum, New Delhi.
- 54. S.P. Verma, op. cit., pl. LXI, fig. 18,
- 55. G.N. Pant, op. cit. (1970), p. 156.
- 56. *Ibid.*, pl. 180, pl. XLIII, This *jaghnol* (Rājput, c. 1725 A.D.) has a leaf-shaped, double-edged, pointed blade with a thickened end. The broader part of the blade, adjoining the handle, is perforated. The wooden handle bears metallic bands, beautifully decorated, on upper and lower ends.
- 57. S.P. Verma, op. cit., LXI, fig. 37.
- 58. Ibid., pl. LXI, fig. 39.
- 59. Ibid,, pl. LXI, fig. 38.
- 60. Blochmann, op. cit., I, pl. XII, figs. 22, 35,
- 61. Bābur-nāmā, f. 103, tr. p. 160.
- 62. G.N. Pant, op. cit. (1970), p. 157, figs, 1 and 2.
- 63. The personal battle-axe of Nādir Shāh bearing his name and his title Sāhib-i-qirān in Arabic in gold is displayed in the gallery of Arms and Armour, National Museum, New Delhi. Its length is 20.4 inches and the blade is 5.4 inches horizontally and 3.6 inches vertically. The handle is profusely decorated with floral design in gold and silver work. In the Windsor Palace Museum, London, is a fine battle-axe with enamelled handle inlaid with jewels. This axe also belongs to Nādir Shāh.

5

# Armour

### Introduction

The first lesson regarding the necessity of armour was learnt by Bābur when he was still a youth. In October, 1494 A.D., his guardian, Khudāi-birdī Bēg, died in the first days fighting, struck by a cross-bow arrow. As the assault was made without armour, several bare braves (yikit yilang) perished and many were wounded.¹ There were a few other occasions as well when Bābur had to fight without his armour. Narrating his compaign against Qalāt-i-ghilzaī in June, 1505 A.D., Bābur admits, "On arriving Qalāt we attacked at once and from all sides without our mail and without siege appliances."² But this was an exception. Most of the battles fought by Bābur were well planned, masterly executed and he (fig. 159) and his soldiers (fig. 160), including horses, were carefully protected.

At the time of distress in 1502 A,D., the Younger Khān Dādā came to Tashkent. Says Bābur, "Next day my Younger Khān Dādā bestowed on me arms of his own and one of his own special horses saddled, and a Mughal head-to-foot dress—a Mughul cap,³ a long coat of Chinese satin, with broidering of stitchery,⁴ and Chinese armour; in the old fashion, they had hung, on the left side, a haversack (chantāi) and an outer bag,⁵ and three or four things such as women usually hang on their collars, perfume-holders and various receptacles,⁶ in the same way, three or four things hung on the right side also."

In February, 1536 A.D. (Shabān), A.D. 911), Bābur attacked on the Turkmān Hazārās of Kābul. Bābur writes, "Muhammad Alī Mubashshir Beg,<sup>8</sup> one of our most daring braves, newly promoted to the rank of bég and well worthy of favour, went along the branch-blocked road without his mail, was shot in the

Armour 103

belly and instantly surrendered his life. As we had gone forward in haste, most of us were not in mail. Shaft after shaft flew and fell; with each one Yūsuf's Ahmad said anxiously, "Bare like this you go into it! I have seen two arrows go close

Fig. 159 A scene from the illustrated manuscript of the Bābur-nāmā Bābur is portraycal wearing helmet having ribbed half-sleeved cheek-pieces, tunic, short trousers, etc. The legs are also protected. A long, straight sword inside a sheath is tied round his waist-belt with two leather straps. The sword consists of globular disc, rectangular pommel and short langets. A jamadhar (straight dagger) is inserted inside the waiskband. Babur is wearing long boots. Mugal, 1597 A.D. Museum, (National New Delhi)



to your head!" said I, "Don't fear! Many as good arrows as these have flown past my head". So much said, Qāsim Beg, his men in full accourrement, found a ford on our right and crossed. Before their charge the Hazārās could make no stand, they fled, swiftly pursued and unhorsed one after the other by those just up with them".

At the time of the second raid on the Turkaman Hazaras in February, 1507

A.D., when Bābur was a youth of just 24, in Kābul, he composed a long poem, a few lines reveal:

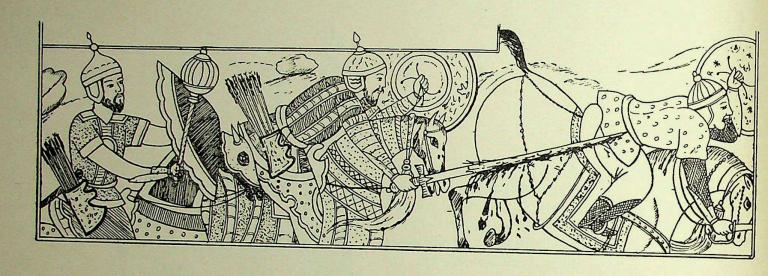


Fig. 160 Excerpt from the illustrated manuscript of the Bābur-nāmā depicting a battle-scene. Fully caparisoned horses and armour-clad warriors holding clubs, shields, quivers, bows, arrows, swords, etc., are visible (National Museum, New Delhi)



Fig. 161 Back view of an armoured warrior. He is putting on a helmet fitted with long camail. A lamellar armour is worn over the jāmā and is tied with two straps over the shoulders. A quiver filled with arrows is tied to his waist. He is holding a long straight sword in his right hand. The legs also seem to be well protected. A crescent motif is depicted on the quiver.

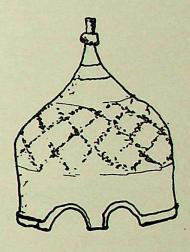
Drawn from the illustrated manuscript of the *Tārīkh-i-Khāndān-i-Timūriā* (Khuda Bux Library, Patna)

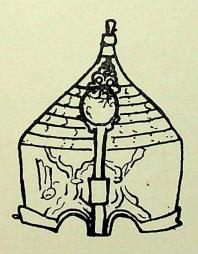
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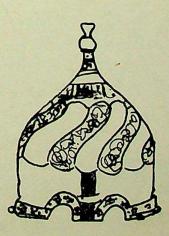


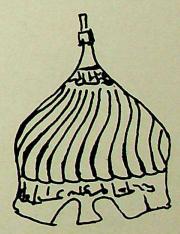
164











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166 165

Fig. 162 Dome-shoped bowl inscribed and decorated. Two eye-holes are cut. The nasal has a leaf-shaped end.

Fig. 163 Dome-shaped bowl without a nasal. Decorated all over and inscribed.

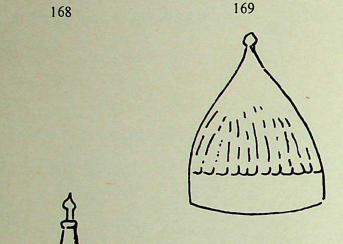
Fig. 164 Dome-shaped bowl decorated with criss-cross design.

Fig. 165 Dome-shaped bowl decorated with horizontal bands. Nasal guards has a broad leafshaped end.

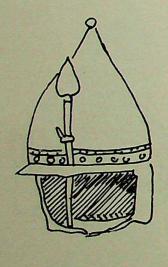
Fig. 166 Dome-shaped bowl without a nasal. Two eye-holes are cut. Fig. 167 Dome-shaped bowl decorated all over with curved bands. No nasal. (All these figures are based on actual specimens) (All these figures are based on actual specimens)

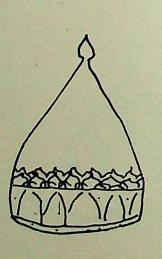
# Mughal Weapons in the Bābur-nāmā

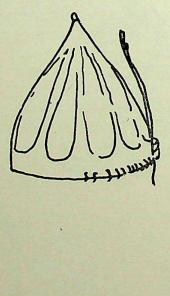
170











171

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173

- Fig. 168 Baydah helmet, oval-shaped with a tang. No nasal, no camail. Fig. 169 Baydah helmet, decorated.
- Fig. 170 Oval-shaped helmet decorated with vertical bands. Nasal has a leaf-shaped end.
- Fig. 171 Helmet, plain oval-shaped bowl, two cheek flaps and a nasal. Fig. 172 Oval-shaped bowl without a nasal, lower nasal decorated. Fig. 173 Oval-shaped helmet, decorated with panels, plain nasal.

(All these figures are based on actual specimens).

"Not a man gave ears to my words

I had but my arrows and quiver

I had no armour, nor horse mail, nor arms

I went, the rest, may be all of them stood,

Stood still as if slain by the foe!12

On the 16th Jan, 1523 A.D., Bābur presented a special armour to Shāh Mīr Husain.<sup>13</sup> Many armour pieces were presented by Bābur to his generals as a recognition of their meritorious deeds in battles. Throughout the Mughal period it was considered an item worthy of gift.

## Helmet (figs. 162 to 173)

The Bāburid helmet,<sup>14</sup> as a rule, was hemispherical (fig. 162). Although thickness of material was of some importance in defensive armour, this providing of surfaces from which a weapon would slip was considered to be of supreme importance (fig. 163). The problem of weight was partly solved by providing a padded cap<sup>15</sup> which was worn under the helmet to protect the head from pressure.

Initially the Mughals wore spangenhelms of four segments or multi-segmented type. A new feature was a broad strenthening rim (figs. 162, 163, 165, 167) given to almost all helmets. The finest Mughal helmets were, however, those hammered from one piece of metal (figs. 171, 172).

Mail, aventail and coifs that covered most of the wearer's face were sometimes used during the early medieval period but ever since Bābur reintroduced the mail camail hanging down from the rim of a helmet the use of mail coif gradually declined. These loose mail camails generally covered only the back and the sides of the neck.

 $B\overline{a}bur$  can also be credited, as evidenced through the miniatures of the  $B\overline{a}bur$ - $n\overline{a}m\overline{a}$ , with the use of aventails, of lamellar and also of large disc-like or rectangular ear-or-cheek-pieces that protected the sides of the neck. The leather or quilted aventails faded out in favour of mail in early 17th century A.D.

Since the face was not covered fully by the mail, the nasal or nose-guard was used for its protection. Small plumes (unlike Mongol flags) adorned many of the Baburid helmets.<sup>17</sup>



Fig. 174 This incident relates to 1502 A.D. and took place at Tashkent. Bābur is standing on the strip of white cloth. In the foreground is an old Mughal soldier holding a piece of cloth which he has tied to the leg of a cow, All the soldiers and the horses are fully armoured (from the Bābur-nāmā)

#### Parts of a Baburid helmet

(a) Crest and spike: Some of the helmets had a crest which was only an ornament on the top (figs. 176, 179). The Mongol helmets of the 14th century A.D. were fitted with a small flag (fig. 208) while the Bāburid helmets had mostly a knob with (fig. 202) or without (fig. 200) plume, an upward pointing peak, an arrow-head-shaped spike (fig. 205), and similar designs that can only have had a decorative function. It is typical of Indian and Persian helmets of the 16th century A.D.

- (b) Skull or bow: The most vital part was the skull that protected the head (figs. 168 to 172). It was mostly hemispherical or bowl-shaped or dome-shaped. The outer surface was plain (fig. 168), ribbed (fig. 173), or grooved (fig. 173). The border near the rim was plain or at times decorated with floral or geometrical designs (fig. 172), The mail camail was attached to the rim (figs. 175, 176, 177).
- (c) Nasal: The Baburid soldiers used helmets with or without nasal or nose-guard<sup>18</sup> (figs. 170, 171, 173). In one miniature painting<sup>19</sup> is depicted a curved nasal which protected the entire nose. It was probably fixed. In another painting<sup>20</sup> sliding nasal is painted (fig. 171). Such nasals were moved up and down with a lock. It never touched the nose or any other part of the face. The ends (or terminals) of the nasals were generally leaf-shaped (figs. 162, 165).
- (d) Camail: It was a guard of mail for the sides, neck and shoulders (figs. 175 to 179) It consisted of tiny rings (figs. 183 to 187) interlinked and attached to the rim of the helmet which bore holes.<sup>22</sup> The camail curtain was long enough to reach the wearer's shoulders with a point in the front of each corner and with another two in the centre of the back (figs. 176, 177, 178).
- (e) Cheek-pieces: These were metallic or leather pieces hung from the sides of the helmet to protect the ears and sides of the face<sup>23</sup> (figs. 160, 192). Barring a few exceptions all the helmets worn by the soldiers of Bābur have cheek-pieces (fig. 174). These flaps (or plates) were round, leaf-shaped or foliated at the end<sup>24</sup> fig. 211).
- (f) Padding: Bābur clearly records that for reasons of comfort, a soft cap known as  $duwulgh\bar{a}$ - $burk\bar{a}$  (or  $dubalgh\bar{a}$   $burk\bar{o}$ ) was first worn on the head and over this was put on the helmet.<sup>25</sup>

## Classification of Baburid helmets

(a) Baydāh: It was an 'egg-like' helmet and was fitted with a plume. Its lower edge was rimmed (fig. 172). A curved nasal, having both ends broad-lined

was attached to the helmet. It had pentagonal cheek-pieces and a camail of interlinked variety.<sup>26</sup>



Fig. 175 Armoured warrior wearing a dome-shaped helmet fitted with camail, He is putting on a half-sleeved armour over a full-sleeved shirt.

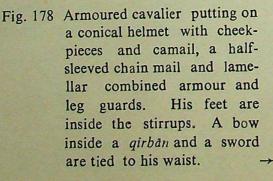


Fig. 176 Armoured cavalier wearing a ribbed helmet with a kalaghi and fitted with a camail. He is putting on a half-sleeved armour over a full-sleeved shirt. Legs inside the stirrups are protected with armour.

(b) Chapel: It had a distinct hemispherical bowl and a wide rim turned down at the sides. Though quite simple yet it was a quite effective and practical helmet for prolonged fighting.<sup>27</sup>



Fig. 177 Armoured cavalier wearing a dome-shaped helmet with camail and a half-sleeved lamellar armour over a full-sleeved shirt. He carries a bow inside a qirbān.





(c) *Dubalghā*: It was a dome-shaped helmet surmounted by a small bud-shaped pinnacle. It had no cheek-piece and no camail. A flat nasal was sometimes attached to it.<sup>28</sup>



Fig. 179 A horsed-archer wearing a ribbed helmet and a half-sleeved lamellar armour over a full-sleeved shirt. He is carrying a bow in his hand while a sword is tied to his waist. Drawn from the Mughal miniatures, 16th centruy A.D.

(d) Kantop: It was made of a single piece and it covered the back head, two ears, sides and neck. It did not require any separate cheek-piece or camail. The edges were strengthened with additional curved plate.<sup>29</sup>

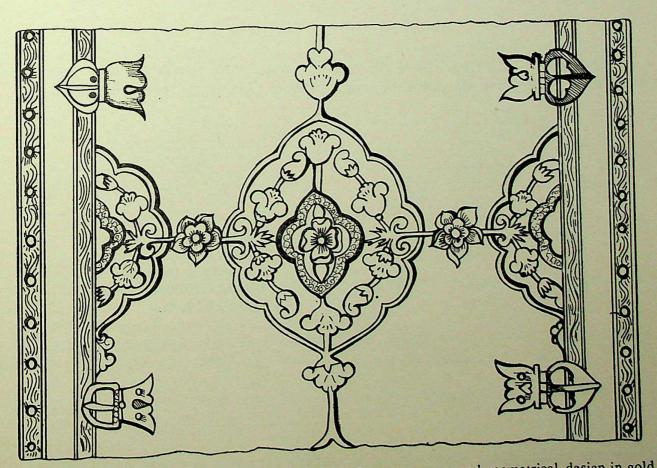


Fig. 180 Details of a chār-āinā plate depicting flower, creeper and geometrical design in gold damascening. Four buckles attached to the belt are visible. Based on an actual Mughal specimen (Windsor Castle, London).

(e) Khud: It was a bowl-shaped helmet with or without a movable nasal.<sup>30</sup> Its pinnacle was a small tang. The border was decorated with floral design.

Fig. 181 Two armoured warriors, the one on the left is putting on a hat-like helmet and a breast-plate, the other on the right has a dome-shaped helmet, coat of lamellar armour and a star-shaped breast-plate. Both are wearing hand armour and are carrying weapons.

(Drawn from the Mughal miniature paintings of 16th century A.D.)



(f) Mongol helmets: The skull was of semi-round shape crowned with a short thick spike (or with a tube for the plume). One such type depicted in the

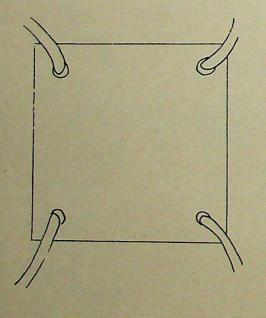


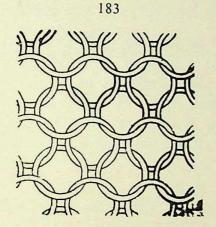
Fig. 182 Breast-plate, almost square in shape with four straps, one at each corner. Drawn from the Mughal miniature paintings of the 16th century A.D.

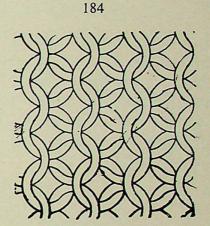
(after S.P. Verma)

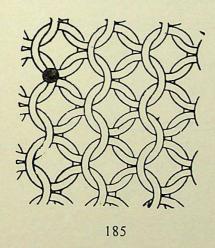
miniatures of the Bāhur-nāmā shows a warrior wearing a helmet made of one piece and moulded so as to fit the human head. It covered the cheeks and a part of the shoulder<sup>31</sup> (fig. 208).

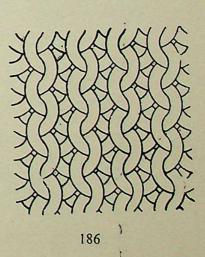
113

(g)  $Nag\bar{a}r\bar{a}$ -type: One helmet, as seen in the painting, is shaped like an inverted kettle-drum  $(nag\bar{a}r\bar{a})$ . The bowl consisted of splints (or was grooved). It had no camail. Curved cheek-pieces with rounded ends were attached.<sup>32</sup> It had no spike or crest, no nasal and no provision for plumes.









- Fig. 183 Chain mail. Each link passes through four others in a regular pattern so that the links lie flat.
- Fig. 184 Double links, closely woven, inside diameter is less.
- Fig. 185 Inside diameter is still less. In all These four drawings (183 to 186) the outside diameter of the link is the same but the inside diameter gets progressively smaller, closing the opening.
- Fig. 186 Width of the link is more than half of the internal diameter and, therefore, there is no opening.
- (h) Oval: Some helmets were oval-shaped having no spike. A rim was attached round the edge which was slightly protruding at the centre. It had two camails.<sup>33</sup>

## Helmets in battle

It has been stated earlier how two braves, Shāh-suwār and Samad had a duel. Shāh-suwār had not put on his helmet<sup>34</sup> so he sustained severe head injury and it was trepanned.<sup>35</sup>

On Saturday, the 13th day of the second Jumādā of the date 933 A.H. (17th March, 1533 A.D.), Bābur's army encamped near the village of Khānwā. Bābur describes the Indian army, "they advanced towards the victorious encampment, intending to give battle. The holy warriors of Islam, trees in the garden of valour, moved forward in ranks straight as serried pines, and like pines uplift their crests to heaven, uplifting their helmet crests those that strive in the way of the Lord."<sup>36</sup>

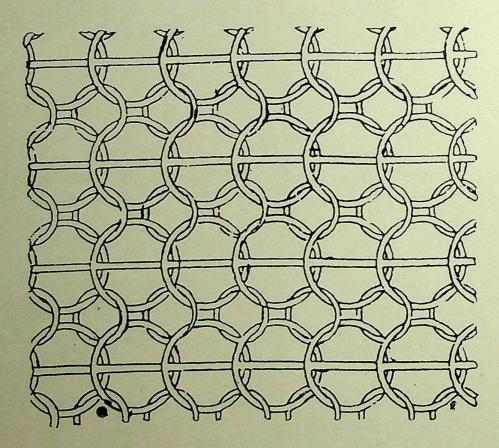


Fig. 187 Mail made of alternate rows of links cut from a plate each with a bar across it and ordinary round links (after G.C. Stone)

It has been described in the previous pages as to how Tambal had hit Bābur's head very severely when the latter was not covered with a helmet. Bābur was again hit, this time by a foot-soldier in Kābul, when the cuirass was on his body but not the helm.<sup>37</sup> Once Tambal chopped at Bābur's head so dangerously that despite the helm being on his head Bābur sustained a very deep wound.<sup>38</sup>

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## Armour for breast and back

A number of mail shirts or coats were used by the Baburid soldiers (fig. 181) Nevertheless, mail as such rarely appears in the illustrated manuscripts of the  $B\bar{a}bur-n\bar{a}m\bar{a}$ . One can only assume that it was generally worn under other garments or these outer garments were mail-lined. The extensive frogging apparent down the fronts of many such garments does suggest a heavy construction that needed external support.<sup>39</sup>

Mail was a popular defence on its own, worn over a quilted coat  $(kubch\bar{a})$  or  $j\bar{a}m\bar{a}$ .

#### Joshan

It was either one single plate or a set of two plates covering the front of the body from the neck upto the waist or little below the waist.<sup>41</sup> It was made of a single piece. It was a breast-plate (fig. 182) and was fastened on the chest with cross-straps running over the shoulders and tucked at the back.<sup>42</sup> S.P. Verma has illustrated six *joshans* from the miniature paintings of Akbar's court.<sup>43</sup> A similar plate was worn on the back also. These were of the following types:

- (i) Round<sup>44</sup>—it was further divided into the one having plain edges or the other having foliated edges.
  - (ii) Square<sup>45</sup>
  - (iii) Rectangular46

These plates were sometimes ornamented with embossed floral pattern in the centre. Square and rectangular plates do not seem to have been very popular with with Baburid soldiers.<sup>47</sup> On each plate, irrespective of its shape, were generally four holes for carrying the cross-straps.

When the plate for the back is added it is still called 'breast-plate' or 'breast and back' or 'back and breast'.48

These separate pieces i.e., plates for the chest and the back were an alternative for the  $ch\bar{a}r-\bar{a}in\bar{a}$ .

#### Char-aina

The word finds no mention in the Bābur-nāmā although it was the most popular armour of the Mughal period. It consisted of four pieces—a breast-plate, a back-plate and two small pieces for the sides<sup>49</sup> (fig. 180). All the four plates were connected together with leather straps.<sup>50</sup> All these plates were slightly bent inside in view of the curvature of the chest. S.P. Verma suggests that the chār-āinā

was worn under the *bagtar*, as it is not visible to us in the illustrations.<sup>51</sup> Bābur mentions a chest-guard<sup>52</sup> called *gharīchā*.<sup>53</sup>

## Angrakha

It is also spelt as angirakhā. It was a surcoat, a long robe worn over armour in India.<sup>54</sup> W. Irvine<sup>55</sup> calls it identical with alkhāliq (a tight fitting coat) which is not correct. H. Blochmann<sup>56</sup> has given its reproduction where it is shown as a long wadded coat. It opened in the front and reached below the knee.

#### Bukhtar

It is also spelt as baktar, bakhtar or bagtar. This is the name for body armour in general, whether were of the cuirass  $(ch\bar{a}r-\bar{a}in\bar{a})$  or chain mail (zirih) description.<sup>57</sup> From the illustrations of the  $B\bar{a}bur-n\bar{a}m\bar{a}$  it may be inferred that it was made of chips of metal arranged like the scales of a fish.<sup>58</sup> It was a lamellar armour.<sup>59</sup>

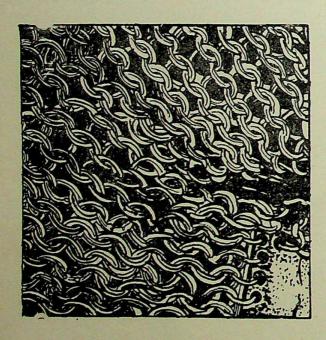


Fig. 188 Details of Mughal coat of mail, fine riveted links of steel are very closely interlaced, leaving hardly any space in between. Probably these are double mail.

(National Museum, New Delhi)

# Sadiqi

It was a short coat, without sleeves, with epaulettes.<sup>60</sup> It had short and raised collars.<sup>61</sup>

#### Jiba

It is also spelt as  $jaib\bar{a}h$ .  $Jib\bar{a}$  so often used to describe the quilted corselet<sup>62</sup> seems to have a wider meaning since the  $jib\bar{a}-kh\bar{a}n\bar{a}$  contained both joshan and  $kuh\bar{a}h^{63}$ , i.e., coats of mail and horse mail with accourrements.<sup>64</sup> It can have been only from this source that Bābur's men obtained the horse mail.<sup>65</sup>

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Blochmann<sup>66</sup> says that  $jib\bar{a}$  was a general name for armour. He has given no figure of it. Steingass<sup>67</sup> believes it to have originated from the Arabic jibbat, and translates it as 'coat of mail', 'a cuirass', 'any kind of armour'. Erskine<sup>68</sup> calls it  $jab\bar{a}$ . In all probability it was a fabric covered mail and was clearly heavy. The Turkish  $kabur\bar{a}h$  and Persian gabr were more or less same as  $jaib\bar{a}h$  or  $jubb\bar{a}h$ .<sup>69</sup> It was long sleeved, quilted and it covered a greater part of the body.<sup>70</sup>

Jibā could also be the under-corselet to which the four plates of  $ch\bar{a}r$ - $ain\bar{a}$  or round plates of  $joshan^{71}$  were attached when mail was worn.

On Monday, the 31st May, 1519 A.D. (1st and 2nd  $Jum\bar{a}d\bar{a}$ , 925 A.H.) in Kābul the chiefs of the Yusuf-zaī Afghāns led by Malik Shāh Mansūr were dressed in robes of honour (khilat). To Malik Shāh Mansūr was given a long silk coat and an under-coat  $(jib\bar{a})$  with its buttons; to one of the other chiefs was given a coat with silk sleeves and to six others silk coats.<sup>72</sup>

#### Zirah

Variously spelt as zirih bagtar, zirah bukhtar, zirah baktah, etc., it was a typical Indo-Persian coat of mail. A number of zirih bukhtar can be seen in the illustrations of the Bābur-nāmā. These were of various sizes and shapes. Some had short sleeves while others had long ones. As a rule it had a plain high collar, was half-sleeved and open in the front. It reached up to the mid-thigh. The zirih worn by the horse-riders was shorter in length. It rested little below the waist and had a slit on the lower part of the back to facilitate mounting the horse.



Fig. 189 Warrior putting on a half-sleeved coat of lamellar armour over a full-sleeved shrit.

He is holding the reins in his left hand. Drawn from the illustrated manuscript of Akbar's period.

Describing his battle with Tambal in 1500 A.D. at Andijān, Bābur says, "Next day we moved out against him, formed up with right and left, centre and van, our horses in their mail, our men in theirs, and with foot-soldiers bearing mantlets, flung to the front.....At the time of engaging, our foot-soldiers, provided how laboriously with the mantlets were quite in the rear".74

In the battle of Sār-i-pūl Bābur was defeated. He writes, "As we wished to fight, we marched from our camp at dawn, we in our mail, our horses in theirs formed up in array of right and left, centre and van." <sup>75</sup>

Pāp was a strong fort which belonged to Akshī. Bābur sent Sayyid Qāsim with a few braves to occupy it in 1502 A.D. One night 70-80 Pāpīs, all in mail, managed to reach the fort with the help of ladders and let the draw-bridge down. Sayyid Qāsim was sleeping. He suddenly got up and with a few persons, all without mail, he killed the Pāpīs in mail.'176



Fig. 190 Details from the illustrated manuscript of Mughal period showing warriors engaged in war. Only the bows of the two warriors are visible, the prominent warrior is wearing a conical helmet, a half-sleeved coat of lamellar armour, arms guard and leg armour.

Babur attempted to defend the citadel of Akshī when came Tambal himself with two or three thousand men in mail, crossed the bridge and went into the citadel. Later peace was restored.<sup>77</sup>

Fig. 191 Details from the illustrated manuscript of the Mughal period depicting a cavalier using a bow. A sword and a quiver filled with arrows is tied round his waist. The warrior is putting on a ribbed helmet, a coat and a pair of arms-guard.



Sultān Qulī Chunāq<sup>78</sup> (one-eared) showed his act of bravery in 1504 A.D. in Kābul when a few Afghāns confronted Bābur. In Bābur's words, "Sl. Qulī

Chunāq, all in his mail as he was, got up, slashed at, and took him. This was one of Sl. Quli's deeds done under my own eyes, which led to his favour and promotion".79

Babur captured Kabul in 1505 A.D. and "one day our centre, right and left were ordered to put on their mail and their horse's mail to go close to the town, and to display their equipments so as to strike terror on them.80

In Kabul itself Babur was once attacked in 1507 A.D. by a force of five thousand soldiers, all in mail, under the command of Shah Shuja Arghun alias Shāh Bēg.81

on the 6th January, 1510 A.D. (Thursday 4th Muharram, A.H. 926,) while capturing the fort of Bajaur in Kabul orders were given that the army should put on mail. 82 arms and get to horses; that the left wing should move swiftly to the upper side of the fort, cross the water at the water entry83 and dismount on the north side of the fort.

In Kabul on the 14th March, 1589 A.D., Babur took action against Hatī Kākar, a bad ruler. Says Bābur, "At breakfast time (9 a. m.) we put our mail on and moved forward faster"84 Hatī Kākar was set right.

On Friday, the 8th of Rajab (20thApril, 1526 A.D.) was fought the famous battle at Pānīpat85 which proved a turning point. In this battle Bābur was armoured from head to foot and so were his soldiers and his horses.86 Ibrāhīm Lodī, his warriors and war-elephants, were similarly well protected. This battle is very carefully illustrated on one of the folios of the Bābur-nāmā (fig. 291) of the National Museum, New Delhi.87 Between the cannons, the armoured soldiers with bows and arrows are making sallies. Even the drummers beating drums to infuse courage among the attackers, as per the painting, are helmeted and armoured 88

# Armour for other parts of the body

While the helmet and breast-plate (or coat of mail) were very widely used to protect the head and the trunk, other parts of the body were not neglected.

# Neck protector

It was the guard of mail for the neck and shoulders and was attached to the helmet. Probably gorget as a separate piece of armour was not used.89

#### Girdles

Many varieties of girdles were worn both as an ornament and also as a part of the costume. The  $patk\bar{a}$  or  $k\bar{a}tzeb$  (also called 'court girdle'), the cloth belt tied around the waist over the  $j\bar{a}m\bar{a}$ , was both a decoration and a necesssty. The kamarband was a waist-belt protecting the abdomen, groin and waist (fig. 193). Its another variant was  $yakband\bar{\imath}$  which was usually a belt with slings for the sword and the hook to hang it from, when on foot.



Fig. 192 Fully armoured cavalier putting on a dome-shaped ribbed helmet, lamellar body armour, arms-guard, leg-guard, etc. He is carrying bow and arrow, quiver and sword. Drawn from the Mughal miniature painting.

Fig. 193 An armoured cavalier putting on a ribbed helmet with camail, half-sleeved body armour, arms-guards, etc. A quiver and a sword are tied round his waist. Drawn from the Mughal miniature painting.



#### Hand armour

It consisted of a curved plate which covered the outer side of the hand from the knuckle to the elbow (figs. 192,193). A short curved plate (covering the wrist and hand up to four inches) was attached to the outer plate. There was no gauntlet *i.e.*, the knuckle part was left unprotected. A few distinct varieties, as noticed in the illustrations of the  $B\bar{a}bur-n\bar{a}m\bar{a}$ , are:

- (1) Bājūband made of two pieces of steel hinged together. It was fastened by four laces, probably of leather, two on each side. The tubular part covered the wrist while the pointed one reached the elbow.
- (2)  $B\bar{a}j\bar{u}band$  moulded in the form of a hand and used as an armour. It covered almost the full arm and was provided with a number of straps to fasten. It was not very popular and was used very rarely. 93

### Armour for the legs

#### Shoes

Many varieties of leather sandals, shoes and boots (fig. 199) were used both by the warriors and civilians alike. These shoes provided some protection to the feet and were further protected by soleret or other covering of mail<sup>94</sup> (figs. 192, 193, 199).

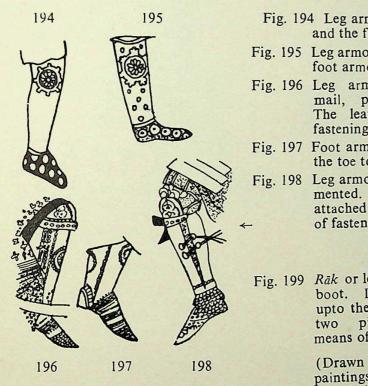
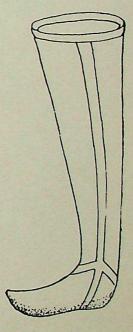


Fig. 194 Leg armour covering the foot and the foreleg, decorated.

- Fig. 195 Leg armour of steel and the foot armour of chain mail.
- Fig. 196 Leg armour of plate and mail, profusely decorated.

  The leather straps, used for fastening are seen.
- Fig. 197 Foot armour covering from the toe to the ankle.
- Fig. 198 Leg armour profusely ornamented. The knee-cap is attached to it. The method of fastening is noteworthy.
- Fig. 199 Rāk or leg-guard made like a boot. It covered the leg upto the knee. It is made of two pieces connected by means of hinges.

(Drawn from the miniature paintings of the Mughal school, 16-17 centuries A.D.)



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# Moza-yi-ahani

This was an iron sock covering the foot or the foreleg. According to  $\hat{S}$ . P. Verma, "It was made of two separate pieces. The front had a shin-guard and a cover for the upper part of the foot. This was made of a sheet of metal and both of its pieces seem either cast or connected by means of hinges. The second part of the  $moz\bar{a}$ - $y\bar{\imath}$ - $ahn\bar{\imath}$  comprised a guard for the calf muscles, the heel and the sole. This piece was worn separately and was hinged to the shin-guard. It was smaller in size than the  $r\bar{a}k$ .

# Rak or Rag

It was a leg-guard made like a boot. It covered the leg upto the knee. It was made of two pieces connected by means of hinges<sup>96</sup> (fig. 199).

#### Ranak

It was an iron leg-piece or greave. Five different varieties have been noticed in the illustrations of the Bābur-nāmā i.e., (1) single piece rānak which extended from the thigh to the shin, (ii) two-piece ranak: one piece covered the thigh and the knee while the second piece covered the shin. Both the pieces were joined together, (iii) lamellar rānak which was made of very small pieces and covered the entire leg from thigh to the toe, (iv) nīmchā rānak which was very short and 200 201 202



Fig. 200 Cavalier, fully armoured, long boots, short sword. Fig. 201 Armoured foot-soldier with a spear, wearing foct-armour also.

Fig. 202 Armoured cavalier with a bow in qirban and a drawn sword.

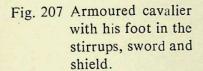
Fig. 203 Armoured knight with a convex shield.

Fig. 204 Cavalier fully armoured with quiver.

Fig. 205 Cavalier with foot in the stirrups, and carrying lance.

covered only the thigh and the knee, and (v) combined rānak, in which the thigh was covered with a plate to which was attached the knee-cap while the lower part

Fig. 206 Cavalier with a helmet, curved cheek-pieces, body armour of lamellar, decorated shield.



- Fig. 208 Cavalier with sword and shield, quiver with bow and arrows.
- Fig. 209 Oval-shaped helmet, scale armour, rectangular shield. →

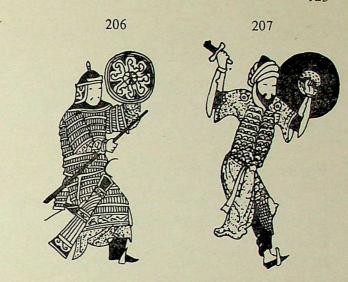








Fig. 210 Excerpt from the illustrated manuscript of the Bābur-nāmā portraying a cavalier putting on helmet, lamellar body armour, hand-guards and leg-guard. He is carrying a sword and a shield in his two hands.

CC-0. UP State Museum, Hazratganj. Lucknow

(covering the shin and the ankles) was made of interlinked chain mail. There were ten or more fastenings.<sup>97</sup>

The  $r\bar{a}nak$  allowed greater mobility than  $moz\bar{a}-y\bar{\imath}-ahn\bar{\imath}$  and  $r\bar{a}k$ . It was made of one, two, or more plates rounded at the ends and bent about the curve of the leg half way above and below the knee.

## Bigger point Shield (figs. 212 to 225)

There are several references for the use of shield in the  $B\bar{a}bur$ - $n\bar{a}m\bar{a}$ . Although the exact material of which these shields were made is not clearly recorded yet the following reference indicates that some of these were made of hide. In 1506 A.D.  $B\bar{a}bur$  had an encounter with Khwarizmi people. Babur says, "again and again their shooting was such that their arrows pierced shield" and cuirass, sometimes the two cuirasses."

#### Khalkha

This kind of shield was circular and was formed from a tightly wound spiral of cane bound with silk threads. 100 Such shields were deep and convex and covered a major part of the face and the chest. 101

#### Pahri

It was a small shield of cane or bamboo. This was flat, light, reasonably strong and bound with cotton or silk threads to make beautiful patterns. 102

# Sipar

It is the Persian name for a shield and was very common during the Mughal India. These were of steel<sup>103</sup> or hide,<sup>104</sup> generally of 17 to 24 inches in diameter.<sup>105</sup>

#### Tur or Tura

The tūra originally seems to have been a large, wooden round shield having a large central boss. Bābur has mentioned its use very often. Describing his compaign against Tambal on the 8th August, 1499 A.D. (A.H. 905) Bābur says, "Commissaries were sent galloping off at once, some to call up the horse and foot of the distant armies, others to urge return on Bambar-alī and whoever else was away in his own district, while energetic people were told off to get together mantlets (tūra), showels, axes and the what-nots of war material and stores for men already with us." Same year, says Bābur, "Next day we moved out against Tambal, formed up with right and left, centre and van, our horses in their mail, our men in theirs, and with foot-soldiers, bearing mantlets, flung to the front." 107

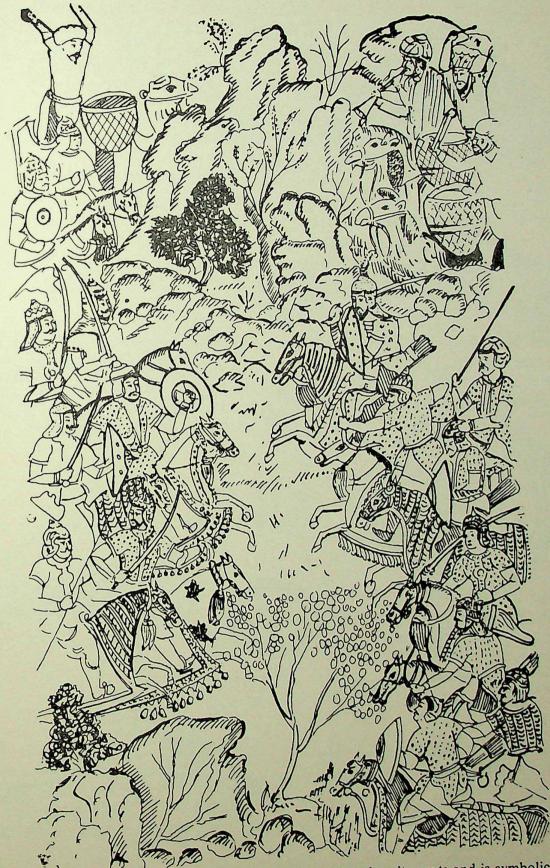
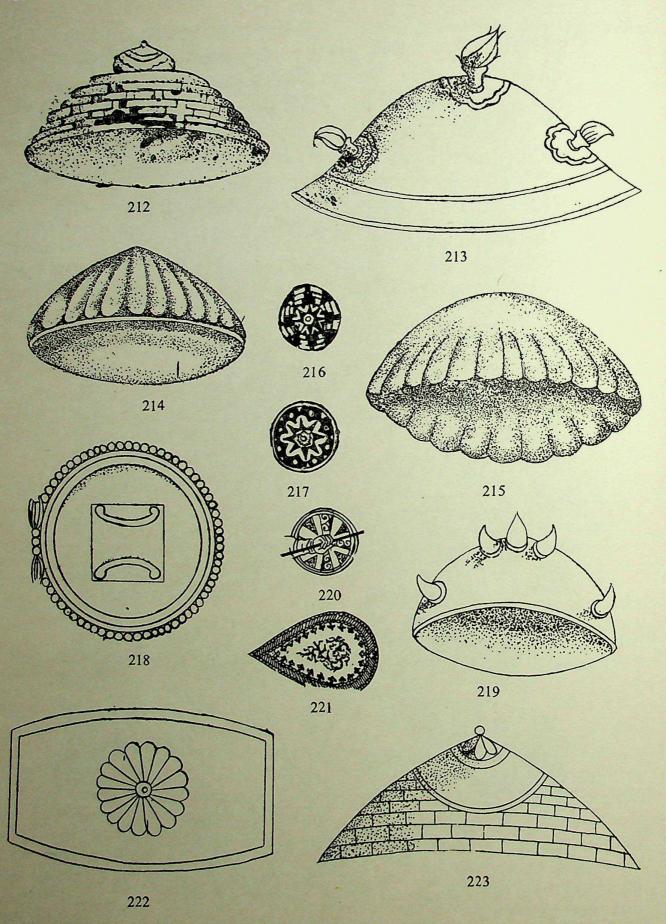


Fig. 211 A battle-scene. The painting is packed with action and excitements and is symbolic of the restless energy of Babur. Babur, holding a naked sword, is charging the enemy. Facing him is Muqim holding a shield. Drums are being lustily beaten by the drummers of both sides (from the Babur-nama).



- Fig. 212 Convex and hemispherical, decorated all over.
- Fig. 213 Convex, outer surface fitted with five knobs (only three visible) with tassels.
- Fig. 214 Convex and conical, decorared all over, nagārā type.
- Fig. 215 Edges made of overlapping splints, made of leather.
- Fig. 216 Outer surface decorated with geometrical designs, circular shield.
- Fig. 217 Circular shield decorated with geometrical design and sun in the centre.
- Fig. 218 Inside view, beaded border, square cushion with two leather straps.
- Fig. 219 Deeply curved and hemispherical shield having curved bosses like things on the outer surface, made of hide.
- Fig. 220 Inner view of a shield, decorated on inside also.
- Fig. 221 Leaf-shaped shield, borders decorated with floral and creeper design.
- Fig. 222 Almost flat and rectangular, embossed with a flower in the centre.
- Fig. 223 Hemispherical and convex, surmounted by a small pinnacle. The upper part is plain while the lower part is decorated with rectangular designs.

  (Drawn from the manuscript of the Bābur-nāmā)

These  $t\bar{u}ras$  were mantlets. These were probably made of laminated wood, sometimes reinforced with cotton thread with a simple horizontal grip. It was also convex enough to carry water from a stream, although in this instance its large metal boss over the hand-grip may have provided a more effective container. 108

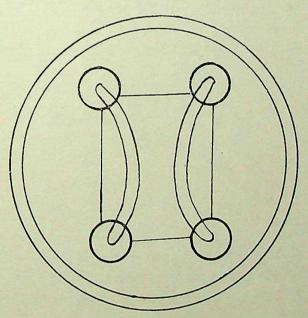


Fig. 224 Inner view of a circular shield.
A square cushion was padded to which were attached two leather straps which themselves were screwed to four rings which served as the washers for the knobs on the outside.
Drawn from an actual specimen, Mughal, 17th century A.D.

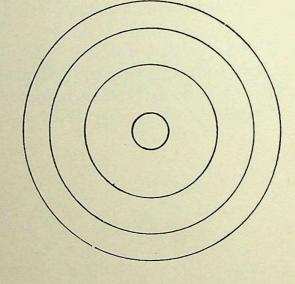
In the battle of  $Pan\bar{\imath}pat$ , as per Babur's orders, seven hundred carts  $(ar\bar{a}b\bar{a})$  were placed in the front. Between every two carts five or six mantlets  $(t\bar{u}ra)$  were fixed behind which the matchlockmen were to stand to fire. These were invariably carried by the foot-soldiers and were fixed on the ground to serve as the shield-wall.

In the  $\bar{A}in$ -i-Akbarī four kinds of shields have been mentioned i. e, sipar,  $dh\bar{a}l$ ,  $pahr\bar{\imath}$  and  $kh\bar{e}r\bar{a}$ . Both the horsemen and foot-soldiers carried similar shields. Square, rectangular, hexagonal or ablong shields are represented very rarely in the

miniatures of the Bābur-nāmā and do not seem to have been much favoured by the Bāburid soldiers. These shields were slung on the back of the soldiers, when not in use, and with cross strings fastened on the chest. In the battle-field the soldier held it in his left hand, the sword or spear being in his right. For gripping, two loops of leather, attached straight or crosswise, were provided inside the shield (fig 218). These loops were screwed or attached to a square sttuffed pad (fig. 224).

The outser side of the shield was ornamented with four to six knobs of metal and was embellished with floral, creeper and geometrical designs. Richly decorated shields with the patterns of Persian scroll work are also available.<sup>110</sup>

Fig. 225 Outer view of a circular shold having four circles.



#### Armourer

A number of armourer have been mentioned in the  $B\bar{a}bur-n\bar{a}m\bar{a}$ , one of them was Muhibb-i-alī, <sup>111</sup> who was also a brave soldier. Another person was Hātim. In the battle of Qāndhār in 1507 A.D., Hātim was the Armoury Master and Abulhasan was the armourer who took active part. After conquering the battle of Pānīpat, Bābur sent Abdul Malik, the armourer, as the head of an army to suppress the rebellion of Iliās Khān on the 17th March, 1527 A.D. <sup>112</sup> Similarly, another armourer Abdul Malik was sent to capture Chandāwar and Rāprī in 1527 A.D. Later on Thursday, 3rd Feb., 1527 A.D. (24th Jamādā, I, 935 A.D.), Abdul Malik was sent as an envoy to Shāh Tahmāsp of Persia.

When Babur became emperor of India, he still remembered Ustad Muhammad Amīn, the armourer of Kabul and his one time friend, and in a letter sent to his

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officer Babur instructed that Amin, the armourer, should be taken proper care



Fig. 226 A market scene of Andijān, the capital of Farghānā. The painting is by Sūr Dās. Trade in almonds is vividly depicted (from the Bābur-nāmā).

#### Horse armour

During Babur's time jibā-khānās were established which contained joshan (mail for the soldiers) and kuhāh (horse mail with accourrements).<sup>114</sup> In 1501, A.D.

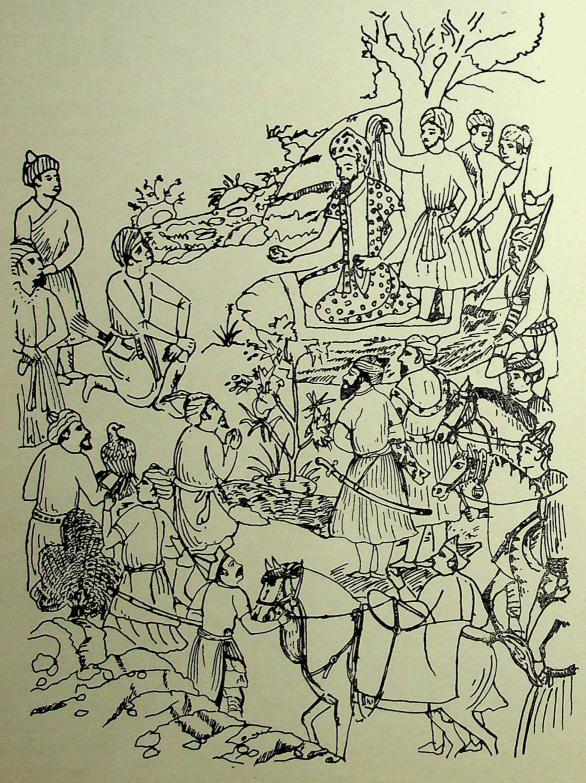


Fig. 227 Bābur is seated under a tree and the person kneeling in front of him is Khusrau Shāh. From here Bābur marched to Kābul. Soldiers are armed with various weapons including matchlock guns (from the Bābur-nāmā).

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Bābur marched out of Samarkand in order to fight Shaibāq Khān. On the way was the Kohik river. Bābur says, "It was the season (July) when this river comes down in flood. We rode right into it, man and horse in mail. It was just fordable for half-way over; after that it had to be swum. For more than an arrow's flight we, man and mount in mail, made our horses swim and so got across. Once out of the water, we cut-off the horse's armour and let it lie." 115

Fig. 228 Qashqā or chafron for horse's head. It covered only the forehead. It is made of a single piece of steel.

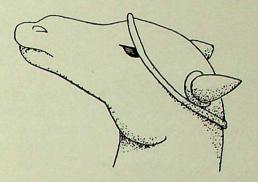




Fig. 229 Cavalier putting on a helmet, a half-sleeved coat and leg armour. He is carrying a bow.

A quiver filled with arrows is tied round his waist.

In 1506 A.D. Bābur attacked on the Turkmān Hazārās, a tribe in Kābul, in winter. He says, "Deep indeed was the snow that winter. Off the road it was upto a horse's qaptāl<sup>116</sup> so deep that the night-watch was in the saddle through till sheet of dawn."<sup>117</sup>

At the decisive battle of Pānīpat, Bābur formed his line of battle in six brigades, besides his body guard in the centre, where he posted himself. Before each of the brigade he placed a squadron of light horse, and in front of the whole his

Fig. 230 A cavalier by the side of his war-horse. A saddle with stirrups is fastened on the back of the caparisoned animal. The warrior is carrying a battle-axe. Drawn from the Mughal miniature painting.



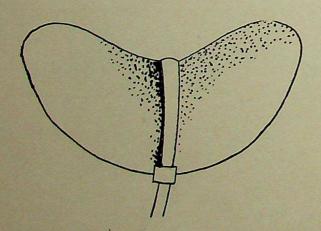


Fig. 231 Saddle, made of leather and covered with cloth. It is semi-circular and is tied with a broad leather strap which crossed the horse's chest and fastened the saddle to keep it from slipping back.

artillery and rocket wagons, in three divisions. The artillery commenced the action and in spite of being surrounded by Ibrahīm Lodī's cavalry and elephantry, caused

great slaughter among them. Babur had ordered his right and left wing cavaliers to fall back by which his army was thrown into a circle, and after standing the repeated assaults of the enemy he collected two brigades of choosen war-horses, 118

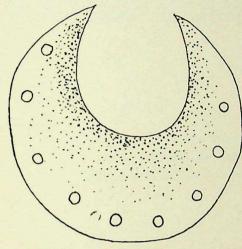


Fig. 232 Nal, semi-circular horse-shoe bearing nine holes through which the nails were affixed.

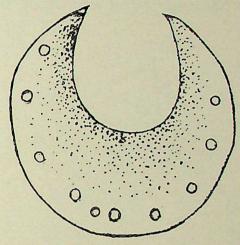
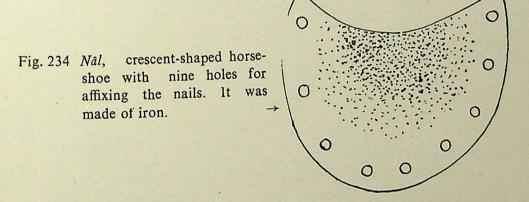


Fig. 233 Nāl, same as fig. No. 232 above.



before which the enemy gave way, and thus and let them to a grand charge, dawned the Mughal rule in India.

# Oashqa

It was a chanfron-an armour for a horse's head and was usually a plate moulded into the shape of the front part of the horse. Some horses are depicted in the miniature paintings as wearing a smaller frontale or 'demi-frontale'. The Bāburid chanfron usually had a holder for a plume. It was a single steel plate moulded like the head of a horse with straps around the jaws (fig. 228).

#### Bridle

A bridle has three essential parts: (i) headstall, (b) bit, and (c) rein. Headstall is an arrangement of straps or cords to hold the bit in the mouth of the horse (figs. 229, 230). The bits were of two kinds-snaffle and curb. Snaffle was a plain bar with the reins fastended to the rings at the ends. Curb had an arch (or plate) in the horse's mouth and the vertical bars in the end. The reins were of leather.

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#### Saddle

One of the reasons of the success of the Islamic armies in India had been the use of the saddle and the stirrups (figs. 230,231). On the 17th July, 1501 A.D., Bābur had a horse race with Qāsim Beg and Qambar Alī. Bābur writes, "My

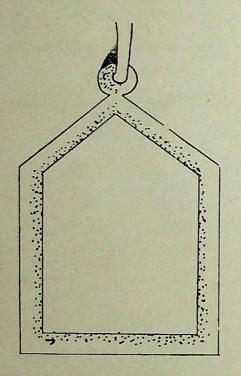
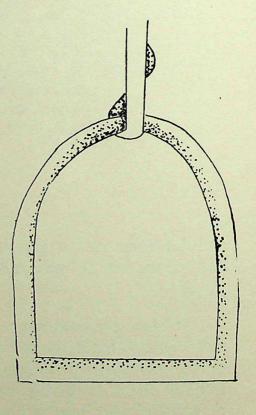


Fig. 235 Rikāb, stirrups, rectangular base, pentagonal shape. It was tied with a leather strap.

Fig. 236 Rikāb, stirrups, rectangular base, semi-circular shape. It was tied with a leather strap and was made of metal.



horse was leading when I, thinking to look at their behind, twisted myself round; the girth may have slackened for my saddle turned and I was thrown on my head to the ground." In July, 1502 A.D., Babur saw the army of the Elder Khan Dada of Tashkent. He writes that the Mughal horses were adorned in a unique fashion and the saddles were made of green shagreen leather. There were many occasions when Babur and his soldiers had to spend the whole night on the

saddle,<sup>121</sup> On the 15th may, 1519 A.D. (Sunday, first *Jumāda*), Khwājā Muhammad Alī brought an excellent saddled horse as an offering to Bābur. Another saddled horse was presented to Bābur by Qāsim Beg on the 2nd September, 1519 A.D. (Saturday, the 8th of *Ramzān*, A.H. 925).<sup>122</sup>

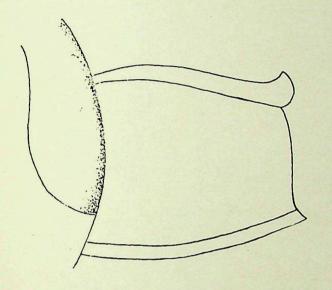
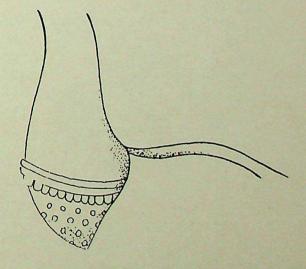


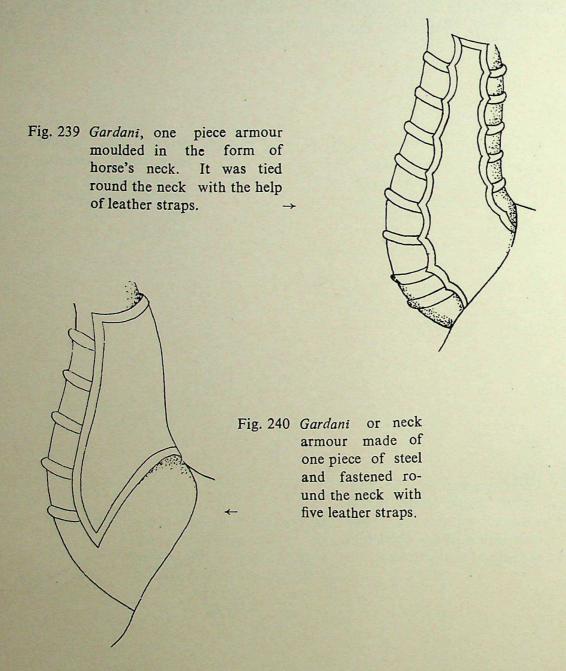
Fig. 237 Artak-i-kājem, armour for the horse. It protected from the shoulders to the tail and from the back down to the chest. It was a quilted covering.

Fig. 238 Chest armour for the protection of the chest. It was made of one piece and was fastened round the chest with the help of leather straps.



After the victory of Bābur at the battle of Pānīpat a large party was held in the pillared-porch of the domed building of Ibrāhīm Lodī. At this party there were bestowed upon Humāyūn a  $ch\bar{a}r-q\bar{a}b^{123}$  a sword-belt and a  $tipuch\bar{a}q$  horse with saddle mounted in gold. Interestingly Bābur refers to the 'saddle-bags' with saddle mounted in gold. Interestingly Bābur refers to the 'saddle-bags'  $(khurz\bar{\imath}n)$ . Describing about his camp and Kāndhār in 1507 A.D. Bābur writes, ( $khurz\bar{\imath}n$ ). Describing about his camp and strings of he-camels, she-camels and "There were excellent  $tipuch\bar{\imath}qs$ , strings and strings of he-camels, she-camels and mules, bearing saddle-bags of silken stuffs and cloth tents of scarlet cloth and velvet."  $^{125}$ 

The saddles were usually covered with a saddle-cloth called  $gh\bar{a}siy\bar{a}$ . It was generally a square with openings for the horn and cantle of the saddle. The



saddles were tied with one or more broad straps crossing the horses' chest and fastened to the saddle to keep it from slipping back.

# Stirrups

Bābur in his autobiography mentions the name of one Haider Rikābdār (i.e., stirrup-holder)<sup>126</sup> who was with him in his early days and another Yusuf-i-Alī<sup>127</sup> whom Bābur relied much. On the 27th June, 1519 A.D., Abul Muslim Kukuldāsh arrived as envoy from Shāh Shujā. There was a swimming competition between Kukuldāsh and Yusuf-i-Alī. The latter won and was rewarded by Bābur with a saddled horse and a jewelled stirrup.<sup>128</sup>

The stirrups were made of metal (fig. 235). It was a U-shaped piece with a flat base (fig. 236). Sometimes a spur (a pricking instrument with point) was also attached to it.

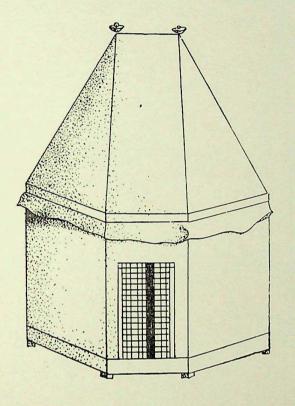
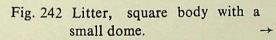
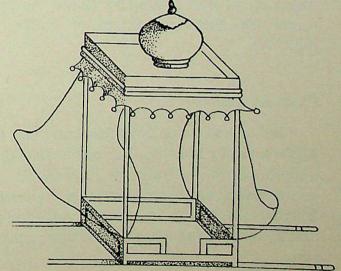


Fig 241 *Imari*, looking like a tent with an entrance.

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The feet of the horse were protected with  $n\bar{a}ls$  (horse-shoe), shaped like a crescent (figs. 232 to 234).

# Artak-i-kajem

This was the main armour for the horse and protected from the shoulders to the tail and from the back down to the chest. Only the legs were

left bare. It was a kind of quilted covering studded with metallic plates. These plates were decorated with sword designs. Many kinds of artak-i-kājem are seen in the miniatures on the Bābur-nāmā (fig. 237).

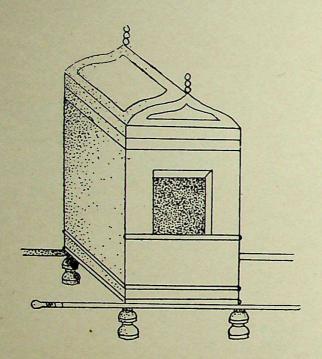


Fig. 243 Litter

## Gardani

Mostly it was a one-piece armour moulded in the form of horse's neck.<sup>130</sup> It was made of iron plates and chains hinged together (fig. 239) It was fastened round the neck with straps of leather. The two-piece gardanī are also seen (fig. 240).

## Elephant armour

Bābur had initially no elephants in his army. He invaded India only with 12000 armoured horses. He records that the standing army of Ibrāhīm Lodī, his main opponent in India in 1526 A.D., consisted of one lakh foot-soldiers and one thousand armoured elephants. Later the elephants formed the part of the Mughal force and on the 12th December, 1528 A.D., Bābur had presented, among many other items, ten war-elephants with accoutrements to Askarī, his son.

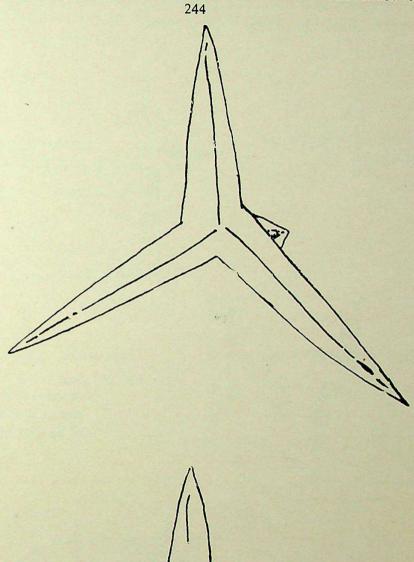
In the miniature paintings of the  $B\bar{a}bur-n\bar{a}m\bar{a}$  the elephants are very well protected. It consisted of the followint items:

#### Pakhar

It was a frontlet which protected the forehead and the trunk, specially the trunk, which is the vital organ of an elephant. It was made of steel plates and chains and consisted of two parts: one covering the head and other the trunk.

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Two kinds of pākhars are generally seen: one which covered the entire trunk and the other which covered only half of the trunk. Both these types could



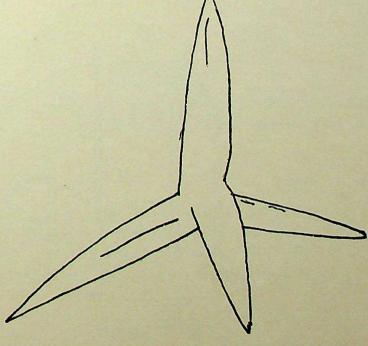
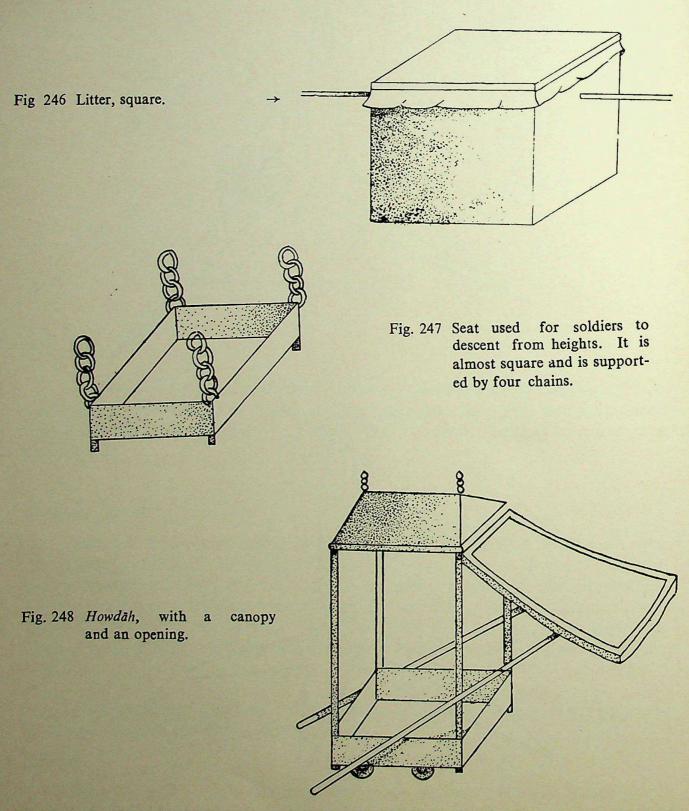


Fig. 244 Caltrap planted singly in the ground to prevent the advance of horses or elephants; on a breach fortifications to hinder the attacking troops. Four spikes, each one inch long. Fig. 245 Caltrap. Four spikes radiating from a common point so that in any position one stands

vertically. Each spike is one inch long.
(Based on actual specimens)

CC-0. UP State Museum, Hazratganj. Lucknow

further be made with or without the head-plate. The  $p\bar{a}khar$  was usually embellished with embossed floral and geometrical designs. A plate just below the forehead was sometimes decorated with plumes.



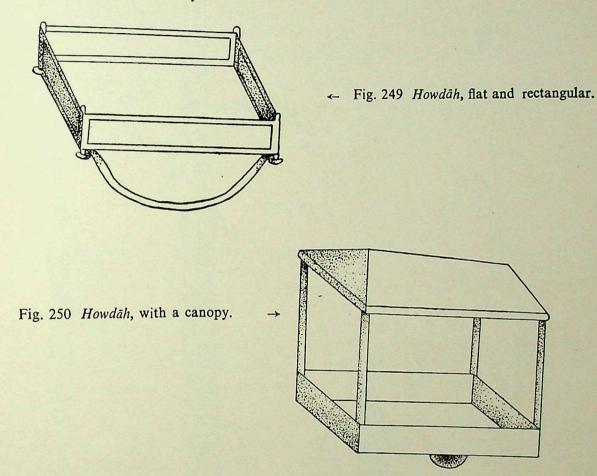
## Tusk protector

The tusks were partly or completely covered with armour.

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## Andhiyari

During the battle, the eyes of the war-elephant were protected by means of a kind of cloth called  $andhiy\bar{a}r\bar{\imath}$ .



# Gajagaha

Also called ear-protector. These were leather or metal plates shaped like a fan and were used for the protection of the huge fan-shaped ears of the elephant.

# Hath jhool

It was a body armour. It was made of steel plates and chains and consisted of two parts. Sometimes it was made of one piece only. The steel plates were hinged together on a quilted covering. No name for this armour has been assigned by Abul Fazl. The armour resembled the artak-i-kājem of the horse. 133

#### Conclusion

No piece of armour belonging to the period of Bābur or the one bearing his name is available in any of the museums of India today nor do we have the armour for men or the animals of the forces of Ibrāhīm Lodī. Our description is

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Fig. 251 Elephant-goad, head only. Steel inlaid with silver.
Fig. 252 Profusely decorated elephant-goad. The point and the hook issue from the elephant's

Fig. 253 Steel head, ivory handle. Fig. 254 Head only. All steel. Fig. 255 Head only, all steel. Fig. 256 Very small, probably made for mahāut's child. Steel socketed with a ring on the back, short wooden handle painted red. Fig. 257 Carved steel head. Handle of steel with a curved end.

Fig. 258 Very rough iron forging. (Based on actual specimens)

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mainly based on the illustrated manuscript of the Bābur-nāmā or on the actual specimens belonging to the period of Akbar or later. The inscribed body armour of Humayun and the personal shield bearing the name and date of Akbar, are on show in the Prince of Wales Museum, Bombay, which can be claimed to be the examples nearest to the Baburid armour. No doubt, the miniature paintings of the Bābur-nāmā, in many cases, reveal the arms and armour of the period of Akbar but they can always be corroborated with the ones described in the text.

Some of the pieces of armour which now survive in the armouries of the old Indian states, in the museums of India and in European and American collections may date from the 16th century but how to associate them exactly with the period of Bābur is a complex question.

#### REFERENCES

- 1. This was Bābur's fight with the forces of Ibrāhīm Sārū, his one time friend and now hostile, at Asfarā. One of Ibrāhīm Sārū's cross-bowmen was an excellent shot; his equal had never been seen; he it was hit most of those wounded cf., Bābur-nāmā, folio 31, translation page 53.
- 2. Ibid., f. 158, tr. p. 248.
- 3. burk, a tall, flat cap (according to Redhouse). In the adjective applied to the cap there are several variants. The Par. manuscript writes muftul meaning 'solid' or 'twisted'. The Elph. manuscript has muftun-lug which has been understood by Erskine to mean "gold embroidered."
- 4. The wording suggests that the decoration is in chain stitch, pricked up and down through the stuff.
- 5. tāsh chantai. These words have been taken to mean whet-stone (bilgū-tāsh).
- 6. Lit. 'bag like things', some will have held spare bowstrings and archer's rings and other articles of 'repairing kit'. With the gifts, it seems probable that the goshā-gir was given. For details see goshā-gīr in the chapter 'Bows, Arrows and Quivers".
- 7. Bābur-nāmā, folio 102 b, tr. pp. 159-60.
- 8. Perhaps he was officially an 'armourer; the word means also "bearer of good news".
- 9. Vilang, without mail, as in the common phrase yigit yilang, 'a bare brave'.
- 10. aupchin, of horse and man. Earlier on folio 113 b, the word aupchinlik has occurred. According to Shaw it may mean "horse-shoes and their nails". Steingass defines aupchā-khānā as a "guard house.
- 11. Bābur-nāmā, folio 161, tr. p. 252.
- 12. Ibid., p. 196, tr. 312.
- 13. Ibid., p. 250 b, tr. p. 423.
- 14. The word 'helmet' literally means any head-piece used for the protection of the head. The 'helmet' is diminutive of 'helm'. In ancient India the head covering would rather rank as a helmet, as it did not entirely cover the face. During Mughal period, the helmet became the 'helm'. The nasal was added, the ear-flaps were fixed and the aventail was attached. In general use the two words ('helmet' and 'helm') are seldom differentiated.
- 15. Bābur-nāmā, f.234, tr. p. 396.
- 16. In the Tārikh-i-Tāhirī it is recorded that on the first invasion of Mughals into India the women miscarried at the very sight of the Mughals with their terrific helmets, vide, Elliot, Indian History as Told by its Own Historians, vol. I, p.533.

- 17. For details see G.N. Pant, Indian Arms and Armour, vol. III (Delhi, 1983), pp. 42, 43, 47, etc.
- 18. It was a piece depending from the front of a helmet to protect the nose of the wearer.
- 19. G.N. Pant, op. cit. (1983), p.52, fig. 166.
- 20. Ibid., p. 48, fig. 147.
- 21. Very rarely a set-screw fastening was used. Almost all the available Mughal helmets in the museums of India have sliding nose-guards. They pass through a loop on the front of the helmet and are held up out of the way.
- 22. It was fixed to the lower edge of the helmet bowl with close-set rings passing through holes drilled in the metal.
- 23. S. P. Verma, Art and Material Culture in the Paintings of Akbar's Court (New Delhi, 1978), pl. LXIV, figs. 2-5, 15-19, etc.
- 24. G.N. Pant, op. cit. (1983), p.50, fig. 154.
- 25. Bābur-nāmā, f.107, tr. p. 167. It has earlier been stated how this burkī (padded cap) had saved Bābur from the severe blow of Tambal's sword.
- 26. G.N. Pant, op. cit. (1983), p. 52, fig. 166.
- 27. Ibid., p. 53, fig. 168.
- 28. Ibid., p. 56, figs. 179-80, The nasal here seems to have been permanently fixed since it does not show any sliding system.
- 29. Ibid., p. 58, fig. 184.
- 30. It was the helmet of Persian origin. Tenth century Persian texts refer to the helmet as khud but it is difficult to say what type of helmet it meant at that time since the art, evidences show that they were egg-shaped and conical; vide, figure from the coin of Yazid-ibn-al-Muhallab Juzjain reproduced in G.C. Miles, "The Iconography of Umayyad Coinage", Ars Orientalis, VIII (1959), pl. 16.
- 31. G.N. Pant, op. cit. (1983), p. 61, fig. 192.
- 32. Ibid., p. 64, fig. 223.
- 33. S. P. Verma, op. cit., pl. LXIV, fig. 6.
- 34. Bābur-nāmā, f. 65 b, tr, p. 106.
- 35. The head of Captain Dow, fractured at Chunār by a stone flung at it was trepanned (vide, Saiyār-i-mutaakhirīn, p. 577) and Irvine, The Armyof the Indian Mughals, reprinted (New Delhi, 1962, p. 283). Yār-alī was alive in 910 A.D. He seems to be the father of the great Bairām Khān-i-Khānā of Akbar's reign.
- 36. Ibid., f. 319, tr. p. 564.
- 37. Ibid., f. 199, tr. p. 316.
- 38. Ibid., f. 234, tr. p. 396.
- 39. G.N. Pant, op. cit. (1983), pp. 105-6.
- 40. The mail was generally riveted and the wire round in section, Some of the armour were of shirt form put on over the head but mostly they were made to open down the front like a coat.
- 41. It is one of the oldest armour and has been used from the dawn of indian history.
- 42. The joshan illustrated in plate 8, fig. 48, of the Ain-i-Akbari appears to be a breast-plate which covered the chest and the stomach. Blochmann, op. cit., I, pl. XIII, No. 48, has described it as an armour for the chest only.
- 43. Som Prakash Verma, op. cit., p. 98, pl. LXV, figs. 13-18.
- 44. Ibid., pl. LXV, figs. 13-16.
- 45. Ibid., pl. LXV, fig. 17.

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- 46 Ibid., pl. LXV, fig. 18.
- 47. In the successive period these rectangular plates had become more popular that is why we have several of them in our museums today.
- 48. A very unusual type of chār-āinā consisting of four circular plates of metal is displayed in the Baroda Museum and Picture Gallery, Vadodara (Gujarat). Its each plate is about seven inches in diameter. These plates are connected by crossed leather straps and are finally tied with buckles. It was worn round the body. There were two additional straps which were thrown round the neck in order to avoid the plates from slipping down. See G.N. Pant, op. cit. (1983), p.115, fig. 335.
- 49. It is similar to No. 50 in the Ain-i-Akbarī, I. 112 and figure No.49, pl. XIII of Blochmann. It is also shown in Egerton, op. cit., pl. IX and on p. 144.
- 50. The plates were usually rectangular and two worn on the chest and the back were considerably longer than those worn on the sides. The side plates were cut away on the top so that they could fit inside the armpit and should not hinder the free movement of the hand. The side plates had four, and front and back plates had six straps or buckles from the top of one plate to the bottom of the next.
- 51. As per the examples available in the museums, these plates of chār-āinā were used on any kind of quilted garment or leather fabric, cf., G.C. Stone, A Glossary of the Construction, Decoration and Use of Arms, reprinted (London, 1961), p. 175, fig. 218.
- 52. Bābur narrates that he had his cuirass on but had not fastened the gharichā when he was hit by a soldier in Kābul (f. 198 b, tr.p. 315).
- 53. Also spelt as gharbichā which Erskine explains to be the 'four plates of mail' made to cover the back, front and sides; the jibā would be the wadded under-coat to which they were attached.
- 54 W. Egerton, op. cit., p. 23, pl. I, fig. 8.
- 55. W. Irvine, op. cit., p.68.
- 56. H. Blochmann, op. cit., pl. XIV, fig. 52 Ain-i-Akbari, I. 112.
- 57. F. Steingass, Persian-English Dictionary (1892), p. 195, defines it as 'a cuirass or a coat of mail'.
- 58. From the figure shown in the  $\bar{A}in-i-Akbar\bar{\imath}$ , on pl. XII the bagtar may be described as a fish scale armour but that is not true.
- 59. The lamellar armour was composed of laminated plates or strips of metal riveted upon leather or fabric to give more ease of movement than would be possible with a solid metal. The metallic plates (also known as 'splints' or 'strips') are also called 'lamella', hence such armour in which the strips dominate are called 'lamellar armour'. For details see G N. Pant, op. cit. (1983), pp. 33-34, figs. 78-85.
- 60. It is mentioned in the Ain-iAkbarī, Ain. 35, No. 62; Blochmann, op. cit., pl. XIV, No. 51.
- 61. Its price ranged from 3 rupees to 8 muhars during Akbar's time.
- 62. Bābur says that once he had "put on his jibā but not fastened the gharichā" (folio 161, tr. p. 252) which shows that jibā was a quilted corselet.
- 63. Bābur marched from Kābul in 1504 A.D. and defeated Khurram Shāh's army. Says he, "In this camp all the armour  $(jib\bar{a})$  of Khurram Shāh's armoury was shared out. There may have been as many as 700 or 800 coats of mail (joshan) and horse accourrements (kuhāh). These were the one thing he left behind; many pieces of porcelain also fell into our hands but these excepted there was nothing worth looking at," Bābur-nāmā, f.125, tr. p.195.
- 64. Bābur-nāmā, tr. p. 195, f.n. 2.
- 65. Ibid., f. 127b, tr. p. 198. It was in Kuchā-Bāgh, 4 miles from Kābul, when in 1504 A.D., Babur had ordered his soldiers to put on their mail and their horses' mail and go to the town to create terror among the local people.

- 66. Blochmann, op. cit., Ain. I, III, No. 56.
- 67. F. Steingass, op. cit., p. 356.
- 68. W. Erskine, History of India Under Babur and Humayun, vol. II (1854), p. 187.
- 69. In the Alamgir-nāmā written by Abdul Kādir Badāuni (Bib. Ind., Calcutta, 1868), p. 245, it is recorded that the body of the warrior was adorned with jaibāh and joshan.
- 70. Jauhar records that when Humāyūn was in exile a soldier betrayed and hit Humāyūn with a sword while he was in his jibā, Humāyūn received a serious wound and in order to escape he threw away his jibā which was later found by his brother Kāmrān who declared Humāyūn dead, cf., Jauher, Tezkereh Al Vākiāt, tr. by Major Charles Stewart, reprinted (Delhi, 1972),
- 71. In his adventure with Tambal in Kābul on the 6th April, 1519 A.D., Bābur wore no mail, not even his helm; on his head was the under-cap of the metal helm. On his body was only a jibā, vide, Bābur-nāmā, f. 234, tr., p. 396, f.n. 2.
- 72. Ibid., f. 236, tr. p. 400.
- 73. A number of Mughal zirih bukhtars are displayed in many museums of India. W. Egerton has described a few of them, see Nos. 361, 362, 453, 591, 591T, 766, etc.
- 74. Bābur-nāmā, f. 69 b, tr. p. 113.
- 75. Ibid, f. 89, tr. p. 139.
- 76. Ibid., f. 110, tr. p. 171.
- 77. Ibid., f. 111, tr. p. 173.
- 78. Sultan Quli Chunaq was one of the associates of Babur who had several times betrayed and again joined hands with Babur.
- 79. Bābur-nāmā, f. 150 b, tr. p. 236.
- 80. Ibid., f. 127, tr. p. 198.
- 81. Ibid., f. 210 p, tr. p. 335.
- 82. Ibid., f. 217, tr. p. 368.
- 83. It means where water entered the fort or where water is entered for a fort.
- 84. Bābur-nāmā, f. 230, tr. p. 390.
- 85. Pānīpat, a town in Haryana, witnessed three historical battles, viz., those of Babur and Ibrāhīm Lodī in 1526, of Akbar and Hemū in 1556 and of Ahmad Shāh Abdālī with the Marāthā confederecy in 1761. The following lesser known facts about the battle-field need special mention:—(1) that the scene of Babur's victory was long held to be haunted. Badauni himself passing it at dawn some 62 years later, heard with dismay the din of conflict and the shouts of the combatants, (ii) that Babur built a commemorative mosque one mile to the north-east of the town, (iii) that one of the unaccomplished desires of Sher Shāh Sūrī was to raise two monuments on the battle-field, one to Ibrāhīm, the other to those Chaghtāī Sultans whose martyrdom he himself had brought about, (iv) that in 1910 A.D the British Government placed a monument to mark the scene of Shāh Abdāli's victory of 1761 A.D.
- 86. The word used ātlāndūk (Persian translation suwārshudim) might imply that his cavalry rode forth and arrayed outside his defences, but his narrative allows of his delivering attack, through the wide sally-ports, after arrying behind the carts and mantlets which checked his adversary' swift advances. The Marāthās who may have occupied the same ground as Bābur, fortified themselves more strongly than he did, as having powerful artillery against them. Bābur's ditch and branch were mostly of dhāk trees (Butea frondosa), a local product.
- 87. M.S. Randhawa, Paintings of the Bābur-nāmā (National Museum, New Delhi, 1983), p. 52, pl. XVIII.
- 88. Babur had made five attempts on Hindustan and he himself states that from the time of the revered Prophet down till his time three men from that side had conquered and ruled

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Hindustan. Mahmud of Ghazni was the first, Mohammad Ghori was the second and Babur himself was the third. Baburled into Hindustan an army of 12000 men and horses in mail.

- 89. Kantha-sobha (literally 'a neck ornament') is mentioned in the Ain-i-Akbari and has been reproduced by W. Egerton (pl. I. fig. 7). It is semi-circular with a cut at the neck. Other details about this piece of armour are not available. The upper part of bhanju was almost similar to it.
- 90. S.P. Verma, op.cit., p. 51. It was folded and was long enough to be knotted around the waist, with the ends hanging to the knee.
- 91. G.N. Pant, op. cit. (1983), p. 137.
- 92. Ibid.
- 93. S.P. Verma, op.cit., p. 99, pl. LXV, fig. 4.
- 94. Ibid., pl. XXXIV, figs, 1 to 29.
- 95. Ibid., p. 99, pl. LXV, figs. 5-6.
- 96. G.N. Pant, op. cit. (1983), p. 151, fig. 447.
- 97. S.P. Verma, op. cit., pp. 98-99, pl. LXV, figs. 7-12.
- 88. Bābur-nāmā, f. 163, tr. p. 255.
- 99. One cuirass might be of mail, the other of wadded cloth.
- 100. Under the Seljuk Turks these shields were called kalkan in the 13th century A.D. Later during the 16th century it came to be known in India, Persia and Turkey as khalkhā.
- 101. G.N. Pant, op. cit. (1983), p. 88, fig. 273.
- 102. Actual examples of pahri of Akbar period can be seen in the National Museum, New Delhi.
- 103. If of steel they were highly ornamented with patterns in gold damascening; if of hide, they had on them silver or gold bosses, crescents or stars. Vide, W. Irvine, op. cit., p. 78.
- 104. Guy Francis Laking, The Wallace Collection Catalogues: Oriental Arms and Armour (London, 1964), records a number of sipar, e.g., Nos. 1472, 2215, 2353, etc.
- 105. Another variant, sipar-i-karg, was referred to the shield made only of rhinoceros hide. We also find two other words sipar-i-chāck and sipar-i-farākh which have been used either for mantelets or large infantry shields which were used during sieges. The kite-shaped shields were called sipar-i-shushāk.
- 106. Bābur-nāmā, f. 66, tr. p. 108.
- 107. Ibid., f. 69 p, tr. p. 113.
- 108. G.N. Pant, op. cit. (1983), pp. 89-90.
- 109. Bābur-nāmā, f. 264, tr. pp. 468-9.
- 110. For details of Mughal shields see G.N. Pant, Indian Shield, op. cit., figs. 46, 51, 58, 59, 64, 67, 68, 70, 75-80, 82, 84, etc.
- 111. In 1496 A.D. in Farghana, Muhibb-i-alī, the armourer (qūrchī), outstripped his people and struck in well; he fell from his horse but at the moment of his capture his men attacked and freed him. Paying his tribute Babur says, "There were in truth no better men among Khusrāu Shāh's retainers than these men Sayyidim Alı, the gate-ward and Muhibb-alı, the armourer (Bābur-nāmā, f. 192 b, tr. p. 307). Muhibb-i-alī was even allowed to drink wine with Bābur, a rare privilege, in Kābul in 1519 A.D. (vide, f. 243, tr. p. 410).
- 112. Bābur nāmā, f. 325 b, tr. p. 576.
- 113. Ibid., f. 360, tr. p. 647.
- 114. Ibid., f. 125, tr. p. 195.
- 115. Ibid., f. 90, tr. p. 140.
- 116. This is that part of a horse covered by the two side pieces of a Turkī saddle from which the side arch springs on either side.
- 117. Bābur-nāmā, f. 161, tr. p. 253.
- 118. Ibid., ff. 266-7, tr. pp. 472-4.
- 119. Ibid., f. 95 b, tr. p. 147.
- 120. Ibid., f. 103, tr. p. 160.

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- 121. One such incident took place in 1507 A.D. when Bābur's army had to perform a perilous mountain journey, vide, Bābur-nāmā, p. 194, tr. p. 309.
- 122. Ibid., f. 236, tr. p. 399.
- 123. A square shawl of cloth of gold bestowed as a mark of rank and distinction.
- 124. Bābur-nāmā, f. 297. tr. p. 527.
- 125. Ibid., p. 212, tr. p. 338.
- 126. Ibid., f. 55 b, tr. p. 91.
- 127. On Friday, the 26th January, 1519 A.D., Yusuf-i-alī was sent off to Kābul with letters bestowing Hindal (Dildar's son), not yet yet born, on Mahim.
- 128. Bābur-nāmā, f. 233, tr. p. 401. It seems that during Bābur 'stirrup-holder' had become a class name, thus Muhammad Alī, son of Haidar Rikābdār, was also called Rikābdār, vide, f. 241, tr. p 418.
- 129. S.P. Verma, op. cit., p. 100, pl. LXVI.
- 130. W. Egerton, op. cit., pl. I, fig. 3.
- 131. Bābur-nāmā, f. 261, tr. p. 403. On folio 275 (tr. p. 489). Bābur says that the war-elephants could drag the huge cart of the mortar ((qazān) which otherwise took five hundred men to haul.
- 132. Ibid., f. 351 tr. p. 628. The other items of present included a jewelled dagger and belt, a royal dress of honour, horse-tail standard, flag, drum, ten tipuchāq horses, a string of camel,
- 133. S.P. Verma, op. cit., p. 101, pl. LXVI.

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### Fire-arms

### Introduction

Much has been written regarding the early use of fire-arms and gunpowder in the East<sup>1</sup>, still there is no well authenticated proof which may prove conclusive.<sup>2</sup> There are evidences to show that cannon was in use in Gujarat<sup>3</sup> and Deccan before the advent of the Mughals. It is doubtful, however, that they were actually used in the battle-field. These gnns were installed in the forts to be used against besieging armies. As a weapon of open field-warfare cannon was first used in India by Bābur in the first battle of Pānīpat on the 20th April, 1526 A.D.

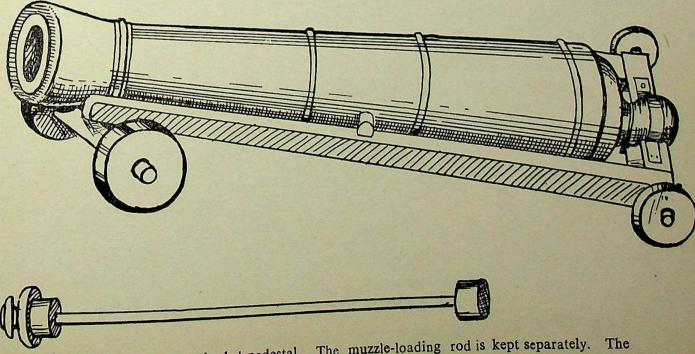
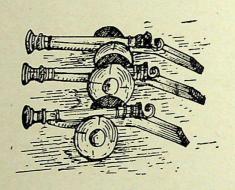


Fig. 259 Huge cannon on a wheeled pedestal. The muzzle-loading rod is kept separately. The cannon has four metallic bands.

# Cannon (zarb-zan) (figs. 259 to 270)

There is a great deal of controversy as to how many cannons Bābur had brought with him to India. All the doubts arose due to a slip in Erskine's translation of Bābur's *Memoirs*. While preparing for the battle of Pānīpat Bābur had ordered that everyman should collect carts  $(ar\bar{a}ba)^4$ . Seven hundred  $ar\bar{a}bas$  were brought in. Erskine translates these  $ar\bar{a}bas$  as gun-carriages<sup>5</sup>. A. S. Beveridge mentions that these  $ar\bar{a}bas$  were, in fact, not the gun-carriages but the baggage-carts of the army and also carts procured on the spot. Erskine omits the words

Fig. 260 Three cannons, each placed on a two-wheeled cart with a sloping back rest. The mouths are funnel-shaped.



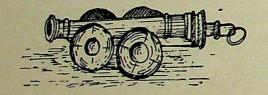


Fig. 261 Cannon placed on a fourwheeled cart. The mouth is funnel-shaped; a ring is attached at the end.

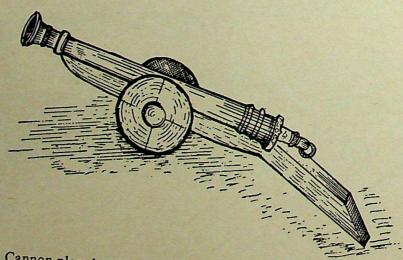


Fig. 262 Cannon placed on a two-wheeled cart having a sloping back rest.

The mouth is funnelshaped and there is a steel ring at the end.

which show how many carts were procured from whom. His incomplete translation led Stanley Lane-Pool to believe that Bābur had seven hundred guns and the

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same number was quoted by the subsequent writers. There is no texual or circumstantial warrant for supposing Bābur to have brought as many as seven hundred guns with him. Even if made in parts, to India for which seven hundred arābas were required. What guns Bābur had at Pānīpat, will have been brought from his Kābul base. Had he acquired any pieces on the way, say from Lahore, he would have certainly recorded such an important reinforcement of his armament. Had he brought all these guns on carts from Kābul, he must have met with transit difficulties while he was making that long journey from Kābul to Pānīpat over passes, through short-hills and many fords. Bābur, a minute observer and a patient chronicler, would hardly omit these details. The elephants he had in Begrām may have been his transport for what guns he had. He does not mention the number of guns used at Pānīpat. He makes his victory a bowman's success. He can be read as indicating that he had two heavy guns? (cannons) with him. There were, however, a large number of handguns.

Describing the preparations made on the eve of the battle at Chanderī, Bābur says, "On Saturday, the 13th day of the second *Jumāda* of the date 933 (i.e., March 17th, 1527 A.D.), obeying the cautions of prudence, we imitated the ghāzīs of Rum<sup>8</sup> by posting matchlockmen (tufangchīan) and cannoneers (rād-

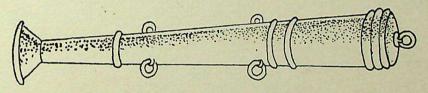


Fig. 263 Cannon of metal; the muzzle is shaped like a funnel. It has many metal bands; four rings, two on each side, are attached while a metallic loop is fixed at the back.

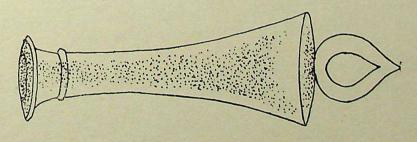


Fig. 264 Cannon, the muzzle shaped like a funnel. It has only one metallic band. The back side of the cannon is very wide, like the mouth of a blunderbuss, and carries an oval-shaped metallic ring at the back.

 $and\bar{a}z\bar{a}n$ ) along the line of carts which were chained to one another in front of us, in fact, Islam's army was so arranged and so steadfast that primal intelligence<sup>9</sup>

and the firmament (aql-i-pīr u charkh-i-asīr) applauded the marshalling thereof. To effect this arrangement and organization, Nizāmuddīn Alī Khalīfā, the pillar of the imperial fortune, exerted himself strenuously; his efforts were in accord with Destiny, and were approved by his sovereign's luminous judgement". 10

Bābur narrates the campaign when Askarī, his son, was made the commander. He writes, "On Wednesday, the 19th of the month (Rabī I) the mirzās, sultāns, Turk and Hindī amīrs were summoned for counsel that Askarī should go in advance towards the East, be joined by the sultāns and amīrs from beyond Gang (Ganges) and march in whatever direction favoured fortune. These particulars having been written down, Ghiāsuddīn, the armourer, was given rendervous for 16 days and sent galloping off on Saturday, the 22nd of the month, to the amīrs of the East headed by Sl. Junaid Barlās. His word of mouth message was that Askarī was being sent on before the fighting apparatus, culvering cart and matchlock, was ready; that it was the royal order for the sultāns and the amīrs of the far side of the Gang to muster in Askarī's presenee, and after consultation with well wishers on that side, to move in whatever direction, God willing, might favour fortune.<sup>11</sup>"

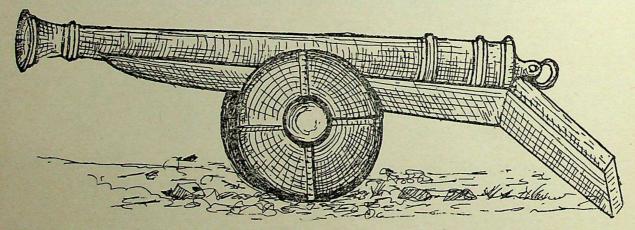


Fig. 265 Cannon mounted on a two-wheeled cart. The funnel-type mouth of the barrel has a ring at the end. The carriage has a built-in slanting wooden rest.

Giving a Persian account of the battle of Jām, Bābur says, "On Tuesday, the 16th of the month Rabī II, A.H. 935 (corresponding to December 28, 1528 A.D.) came one of the Div Sl's<sup>12</sup> servants, a man who had been in the fight between the Qizil-bāsh and Auzbeg, and who thus described it: the battle between the Auzbegs and Turkmāns took place on Ashur Day Muh (10th) near Jām and Khirgird The Qizil-bāsh leader (ādam) fought after arranging cart, culverin and matchlockmen in the Rūmī fashion and after protecting himself, 3 Shahzādā and Juha Sl. (the then Governor of Ishphān) stood behind the carts with 20000 good braves." 15

On Monday, the 4th of month of Rajab A.H. 935 (14th March, 1529 A.D.)

153

the march of Bihar began along the bank of Jūn. Bābur records, "I went by boat. The people of the army were crossing the Jūn up to today. They were ordered to put the culverin-carts<sup>16</sup> which had been landed at Ādampur, its boats again, and to bring them on by water from Piāg."<sup>17</sup>

Early European writers did not assign an honourable place to the Mughal artillery. William Irvine writes, "Judging from the brief account of cannon in the Ain-i-Akbarī one would surmise that this arm was little, if at all, developed." Horn, similarly, believed that infantry and artillery of the Mughals held a very subordinate position to the cavalry. During Bābur and Humāyūn the artillery was encumbered by too much dependence on heavy guns; the soldiers were not well trained in the operation and they had not been able to develop a commendable technique of manufacturing or using the heavy guns, Under Akbar the artillery had reached the highest point of efficiency. No other wing of the army made so gigantic strides in its growth from infancy to a point of perfection commensurate with the existing knowledge of technology. 20

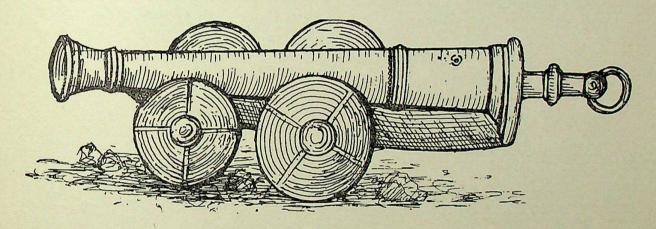


Fig. 266 Cannon placed on a four-wheeled cart. The funnel-type mouth of the barrel has a ring at the end. The barrel is gradually widening towards the end.

The importance of cannon was realised by Humāyūn who fielded 700 light and 21 heavy guns in the battle of Kanauj in 1540 A.D.<sup>21</sup> Both Bābur and Humāyūn took personal interest in the improvement of cannons but they were not ordained to live long to put their artillery on a sound footing. Mughal armies always placed great reliance on their cannons. The heaviest gun weighed as much as twenty tonnes and fired balls upto ten maunds. These were mostly placed on the fort walls. Cannons of lesser weight and the ones employed in the battle-field carried 28 seers of gunpowder at a time. One such cannon belonging to the arsenal of Shāh Jahān famous by the name of Jahān Kushā (World Conqueror) had a barrel 17 feet long, with diameters one foot at the muzzle and six inches at the bore.<sup>22</sup>

As per the illustrations of the  $B\bar{a}bur-n\bar{a}m\bar{a}$ , the heavy cannons were mounted on carriages with two or four wheels. The heavy gun, pulled by an elephant, was called  $gajn\bar{a}l$  and the one pulled by a camel was known as  $shutarn\bar{a}l$ .

Akbar encouraged the manufacture of matchlocks, cannons and pieces of light artillery.<sup>23</sup> Abul Fazl<sup>24</sup> mentions that with the exception of Turkey, no other country was equal to the Mughals in this field.

Araba (figs. 265, 266, 267, 268, 270)

The arāba were baggage carts and not the gun-carriages. Bābur records about the preparations made before the battle of Pānīpat on the 2nd April, 1526 A.D.

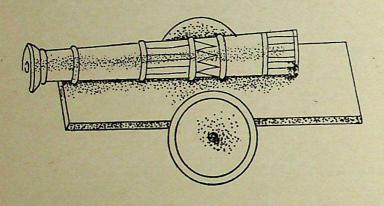


Fig. 267 Cannon placed on a twowheeled carriage. Funnel shaped mouth, barrel gradually widening at the end and is decorated.

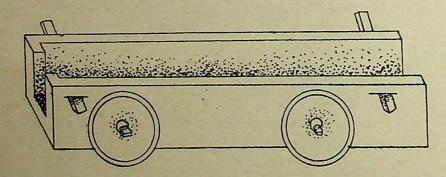


Fig. 268 Carriage to carry a cannon. It has four wheels. The cannon was placed inside the socket.

"While we were marching on in array of right, left and centre, the army was numbered: it did not count upto what had been estimated. At our next camp it was ordered that everyman in the army should collect carts, each one according to his circumstances. Seven hundred carts  $(ar\bar{a}ba)$  were brought in. The order given to Ustad Ali-quli was that these carts should be joined together in Ottoman<sup>25</sup> fashion, but using ropes of raw hide instead of chains, and that between every two carts 5 or 6 mantelets should be fixed, behind which the matchlockmen were to stand to fire. To allow of collecting all appliances, we delayed 5 or 6 days in that camp. When everything was ready, all the  $b\ell gs$  with such braves as had experience in military affairs were summoned to a general council where opinion found

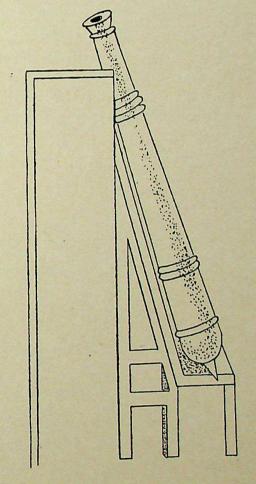
decision at this: Pānīpat is there with its crowded houses and suburbs. It would be on one side of us: our other sides must be protected by carts and matelets behind which our foot and matchlockmen would stand. With so much settled we marched forward, halted one night on the way, and reached Pānīpat on Thursday, the last day (29th) of the second *Jumāda* (April 12th, 1526 A.D.)<sup>27</sup>

The advance force<sup>28</sup> sent towards Rāṇā Sāngā in Feb., 1527 A.D. was defeated. Bābur then despatched another force under Muh. Alī Jang-jang. He writes, "Foot upon foot news came that the foe had come near and nearer. We put on our armour and our horses mail, took our arms and, ordering the carts to be dragged after us rode out at the gallop. We advanced on *kuroh*. The foe must have turned aside."<sup>29</sup>

Fig. 269 Cannon placed on a tripod.

It was used in the siege warfare. Heavy fire-arm with a funnel type mouth.

(Drawn from the illustrated manuscripts of Akbar period)



He continues saying, "for the sake of water we dismounted with a large lake  $(k\bar{u}l)$  on one side of us. Our front was defended by carts chained together, the space between each two, across which the chains stretched being 7 or  $l q\bar{a}r\bar{i}$  (circa yards). Mustafā Rumi<sup>30</sup> had the carts made in the Rūmī way, excellent carts, very strong and suitable." Where the carts did not reach to, Khurāsānī and Hundustānī spadesmen and miners were made to dig a ditch.

While advancing to fight against Raṇā Sāngā, Bābur records, "the apparatus and appliances, the carts and wheeled tripods being ready, we arranged in right, left and centre, and marched forward on New Years Day,<sup>32</sup> Tuseday, the 9th of the second *Jumāda* (March 13th) having the carts<sup>33</sup> and wheeled tripods moving in front of us, with Ustād Alī-qulī and all the matchlockmen ranged behind them in order that these men, being on foot, should not be left behind the array but should advance with it."<sup>34</sup>

Narrating the battle of Khānwā Bābur says, "The marvel of the age, Mustafā of Rūm, had his post in the centre (of the right wing) where was the exalted son, upright and fortunate, the object of the favourable regard of Creative Majerty (i.e., God), Muhammad Humāyūn Bahādur. This Mustafā of Rūm had the carts  $(arābahā)^{35}$  brought forward and broke the ranks of pagans with matchlock and culverin dark like their hearts(?)". 36 About the same battle Bābur says, "The foot-soldiers, going into a most dangerous place, made their names to be blazoned amongst those of the forest tigers (i.e., heroes) of valour and the champions in the field of manly deeds. Just at this time came an order from his Majesty, the Khaqan, that the carts of the centre should be advanced; and the gracious royal soul (i.e., Bābur) moved towards the pagan soldiers, Victory and Fortune on his right, Prestige and Conquest on his left". 37

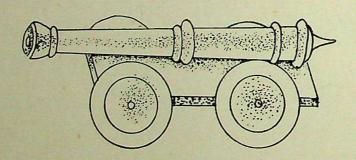
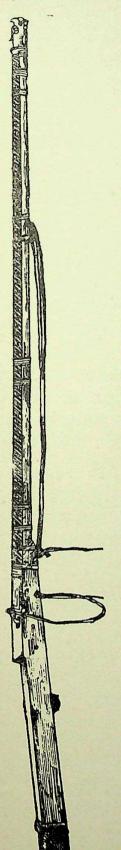


Fig. 270 Cannon placed on a fourwheeled cart. The muzzle is funnel type and the barrel gradually widens to the end.

About the citadel of Chanderī Bābur notices, "The citadel of Chanderī stands on a hill below it are the town (shahr) and outer-fort  $(t\bar{a}sh\ q\bar{u}rgh\bar{a}n)$ , and below these is the level road along which carts pass.<sup>38</sup> When we left Burahānpur

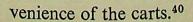
(Jan. 10th, 1528 A.D.) we marched for a kurōh below Chanderi39 for the con-



Fig, 271 Single barrelled, muzzle loading matchlock (toredar) gun. It has a rectangular butt, a trigger and a cock, a long barrel and a muzzle-loading rod.

Fig. 272 Single-barrelled muzzle-loading matchlock gun with a muzzle-loading rod, wooden butt, a leather strap to hang it round the shoulder when not in use.

(Based on actual specimens) →



The light artillery included a variety of field pieces intended for post-haste expeditions. These were mounted on carriages and were pulled by a few oxen or men. Fathullāh Shirāzī is credited with the invention of a light carriage whose wheels possibly moved on some kind of bearings.<sup>41</sup> This mechanism might have been applied to gun-carriages also during Akbar's period but the *arāba* used by Bābur did not have the bearings.

### Matchlock (tufang or tufak)

Matchlock, also called  $tor\dot{e}d\bar{a}r$ , is the earliest mechanism for discharging a gun (figs. 271 to 289). Like all other muzzle-loading fire-arms including cannons it was also loaded from the front (i.e., mouth or muzzle). The matchlocks were basically of two types. The first form consisted of a s-shaped lever (known as 'serpentine') pivoted to the stock near its centre and forked at its upper end to

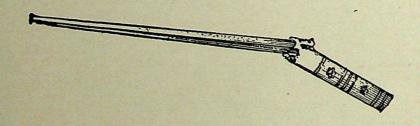


Fig. 273 Matchlock gun used by the foot-soldiers, short cylindrical barrel, heavy straight wooden butt.

hold the match (fig. 283). By pressing the lower end of the lever the match was forced down into the flash-pan and ignited the priming. In some cases the serpentine also had the side movement and the match in it was not kept ignited but was ignited when moved over a slow match burning in a holder on top of the barrel, and then swung back and pressed down into the pan. The next improvement was to place the serpentine in front of the pan and hold it up by a catch

which was released by a pull on the trigger, when the serpentine was thrown down by a spring.<sup>42</sup> All the hand guns used by the Baburid soldiers were of the first variety. It was named tufang or tufak.

On Thursday, the 4th of *Muharram*, A.H. 925 (6th January, 1519 A.D.) Bābur attacked the fort of Bājaur in Kābul. Here the matchlocks (*tufang*) were used. "As the Bājaurīs had never before seen *tufang* they at first took no care about them, indeed they made fun. When they heard the report and answered it by unseemly gestures. On that day<sup>43</sup> Ustād Alī-qulī shot at and brought down five men with his matchlock; Wali, the Treasurer, for his part, brought down two; other matchlockmen were also very active in firing and did well, shooting through shield, through cuirass, through *kusāru*,<sup>44</sup> and bringing down one man after another. Perhaps 7, 8 or 10 Bājauris had fallen to the matchlock-fire (*zarb*) before night. After that it so became that not a head could be put out because of the fire. The order was given, "It is night; let the army retire, and at dawn, if the appliances are ready, let them swarm up into the fort".<sup>45</sup>

On Monday, the 25th March, 1526 A.D., Humāyūn canquered Hāmid Khān, "Humāyūn arrived to wait on me, bringing with him as many as 100 prisoners and 7 or 8 elephants. Ustād Alī-quli and the matchlockmen were ordered to shoot all the prisoners by way of example. This had been Humāyūn's first affair, his first experience of battle, it was an excellent omen". 46

After Bābur became victorious in the battle of Pānīpat, the mother of Ibrāhīm Lodī attempted to poison him. She managed the conspiracy with one of the cooks, the taster and two women engaged in the kitchen. The plot was leaked out and Bābur had a narrow escape, "that taster I had cut to pieces, that cook skinned alive; one of those women I had thrown under the elephant, the other shot with a matchlock".<sup>47</sup>

As the battle of Khānwā lasted long, an imperative order was issued that the special royal corps ( $t\bar{a}b\bar{n}n\bar{a}n$ -i- $kh\bar{a}sa$ -i- $p\bar{a}dsh\bar{a}h\bar{\imath}$ ) who, heroes of one hue,<sup>48</sup> were standing, like tigers enchained, behind the carts<sup>49</sup> should go out on the right and the left of the centre,<sup>50</sup> leaving the matchlockmen's post in between, and join battle on both sides. The marval of the age, Ustād Alī-qulī, who with his own appurtenances stood in front of the centre, did deeds of valour, discharging against iron manteled forts of the infidels<sup>51</sup> stones of such size that were (one) put into a scale or the Balance in which actions are weighed, that scale shall be heavy with good works and he (i.e., its owner) shall lead a pleasing life;<sup>52</sup> and were such stones discharged against a hill, broad of base and high of summit, it would become like carded wool.<sup>53</sup> Such stones Ustād Alī-qulī discharged at the iron-clad fortress of the pagan ranks and by this discharge of stones and abundance of culverins (zarb-zan)

and matchlocks destroyed many of the builded bodies of the pagans. The matchlockmen of the royal centre, in obedience to orders, going from benind the carts into the midst of the battle, each one of them made many a pagan taste of the poison of death.".54

In the battle of Khanwa Hasan Khan of Miwat fighting for Rāṇā Sangā was enrolled in the list of the dead by the force of a matchlock (zarb-i-tufak); most of those headstrong chiefs of the Rājput clan were slain like-wise, and ended their days by arrow and matchlock ( $t\bar{\imath}r-i-tufak$ ). <sup>55</sup> Bābur wrote the following verse after he conquered the battle.

All the Hindus slain, abject (khwar-var,-zar) and mean, By matchlock-stones like the Elephant's lords<sup>56</sup> Many hills of their bodies were seen, And from each hill a fount of running blood Dreading of arrows of (our) splendid ranks, Passed<sup>57</sup> they in fight to each waste and hills'.<sup>58</sup>

On Friday, the 13th March, 1528 A.D., Bābur encountered with Afghāns. On that day seven or eight beads were hrought in; many of the enemy had arrow or matchlock wounds.<sup>59</sup>

On the 26th September, 1528 A.D., Bian Shaikh brought news about Shahzada Tahmasp's advancing out of Iraq and defeating the Auzbeg. 60 Here are his particulars:- Shah-zada Tahmasp, having come out of Iraq with 40000 men arrayed in Rūmī fashion of matchlock and cart 61 advanced gith great speed, takes Bastam, slaughters Rinish (var. Zinish) Auzbeg and his men in Damghan and from there passes right swiftly on". 62

## Swivel-gun (firangī)

In the  $B\bar{a}bur$ - $n\bar{a}m\bar{a}$  firang $\bar{\imath}$  has been differentiated from the tufang but its technical details are not given. In all probability it was a swivel-gun used in a siege from a tripod.

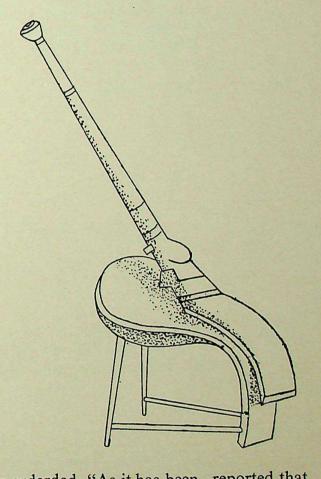
On Friday, the 7th January, 1519 A.D., Bābur attacked the fort of Bājaur in Kābul, "Ustād Alī-qulī was there also; he shot very well on that day with his matchlock and he twice fired off the *firangī* (or *farangī*). Walī, the Treasurer, also brought down a man with his matchlock".<sup>63</sup>

On the 28th April, 1529 A.D., plans of the appraaching battle with the Bengal army were made. The Turk and the Hind amīrs were summoned for a consultation about crossing Ganges and matter found settlement at this that Ustād Alī-qulī should collect mortar, firangī<sup>64</sup> and culverin<sup>65</sup> to the point of rising ground between the rivers Saryū and Ganges, and, having many matchlockmen

with him, should engage battle from that place,  $^{67}$  that Mustafā, he also having many matchlockmen, should get his material and implements ready on the Bihar side of the Ganges, a little below the meeting of the waters and opposite to where on an island the Bengalis had an elephant and a mass of boat tied up and that he should engage battle from this place;  $^{68}$  that Muhammad-i-zamān and others inscribed for the work should take post behind Mustafā as his reserve; that both for Ustād Alī-qulī and Mustafā shelters ( $mulj\bar{a}r$ ) for the culverin-firers should be raised by a mass of spadesmen and coolies ( $kah\bar{a}r$ ) under appointed overseer; that as soon as these shelters were ready, Askarī and the sultāns inscribed for the work should cross quickly at the Hāldī-passage and come down on the enemy".  $^{69}$ 

Fig. 274 Jazail, used from the back of the camels or placed on a stool, long barrel, curved broad butt.

(after S.P. Verma)

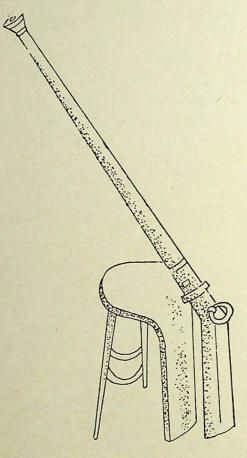


On the 30th April, 1529 A.D. Bābur orderded, "As it has been reported that there are (no.?) crossing places (fords?) along the whole of the ground from Chatur-mūk in Sikanderpur to Bahrāich and Aud (Awadh), let us, while seated here, assign the large force to cross at the Hāldī-passage by boat and from there to come down on the enemy, let Ustād Alī-qulī and Mustafā engage battle with gun (top), matchlock, culverin and firangī and by this draw the enemy out before Askarī comes up; Let us after crossing the river (Ganges) and assigning reinforcement to Ustād Alī-quli take our stand ready for whatever comes; if Askari's troops get near, let us fling attack from where we are, cross over and assault. Let Muhammad-i-zamān Mirzā and those appointed to work with him, engage battle from near Mustafā on the other side of the Gang''71

On Tuesday, the 3rd May, 1529 A.D. (Shabān 24th, A.H. 935) Bābur's army marched from where the river (Ganges) had been crossed, went on for nearly one

Fig. 275 Jazail, used from the back of the camel or placed on a stool. Long barrel with a funnel type muzzle. A ring attached at the end of the barrel.

(after S.P. Verma)



kuroh (2 miles) and dismounted on the fighting-ground at the confluence. I myself went to enjoy Ustād Alī-qulī's firing of culverin and firingī, he hit two from his side''.72

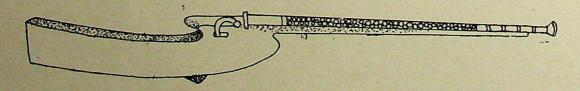
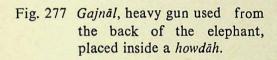
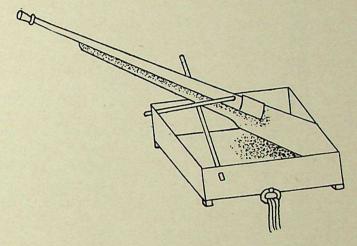


Fig. 276 Narnāl, short barrel, heavy butt slightly curved, used by the foot-soldiers.

The kind of matchlocks used by the Baburid army were identical to those of the earliest handguns developed in Europe in the middle of the fifteenth butt resting on the right shoulder.

The  $gajn\bar{a}l$ , rarely represented in the miniature paintings,<sup>73</sup> was a light cannon, carried on the back of an elephant. It was heavier than a  $narn\bar{a}l$  but





lighter than a heavy cannon. It was placed inside a rectangular box fitted with an iron rod. The butt rested on the box and the barrel on the iron rod which served the purpose of a stand. This gun could be rotated slightly.<sup>74</sup>

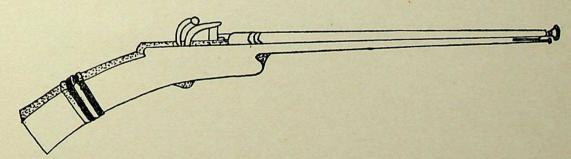


Fig. 278 Narnāl, short barrel, heavy wooden curved butt. Used by the foot-soldiers.

There were separate guns for the siege of fortresses, naval engagements and open field warfare. According to Abul Fazl it was impossible to count every gun. High sounding names and ranks were assigned to these guns.<sup>75</sup>

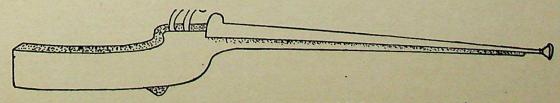
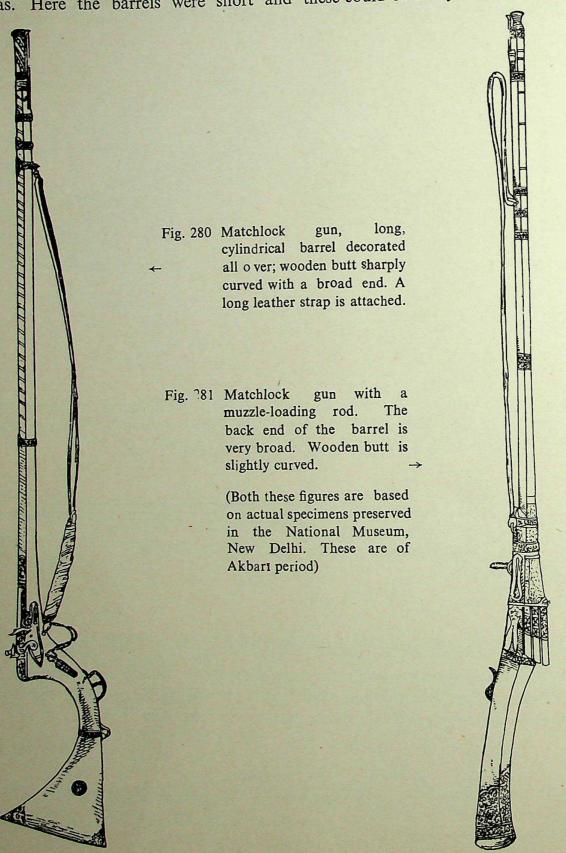


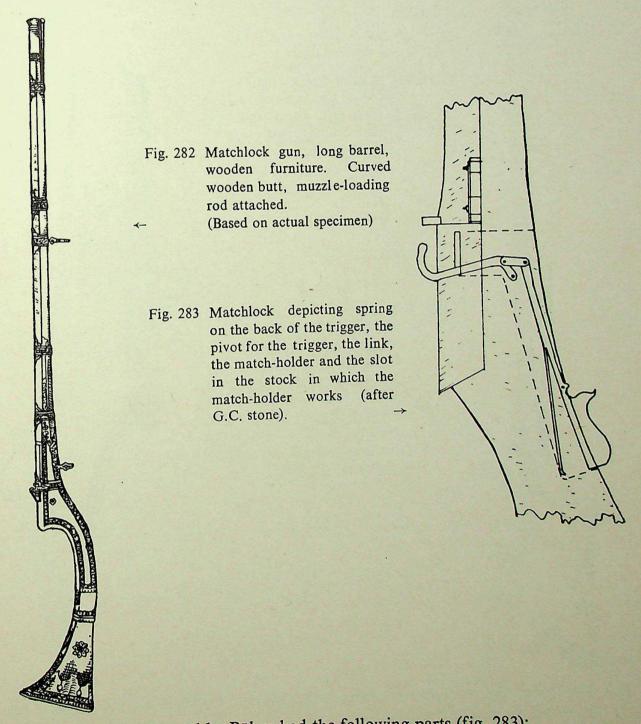
Fig. 279 Narnāl, used by the foot-soldiers, long barrel with funnel type muzzle. (From the paintings of early Mughal school)

Akbar had introduced some portable matchlocks intended for use in hilly areas. Here the barrels were short and these could be easily moved from one



place to the other by a single person. These were called narnāls. 76 S.P. Verma has identified some narnāls 77 from the paintings of Akbar's period. M.K. Zaman

calls it a mistake and opines that *narnāl* could not be a matchlock "as it was pulled by a single man". <sup>78</sup> Zaman probably does not have the basic idea of a matchlock gun. *Narnāl* was a matchlock named by Akbar and was so called because it could easily be carried by one man. Such matchlocks were used by Bābur also.



The matchlocks used by Bābur had the following parts (fig. 283):

A. A long barrel of steel, decorated or plain, with a slightly broad muzzle.

- B. A ram-rod kept, just below the barrel, in a slot. This was employed in loading the gunpowder in the barrel.
- C. The serpentine match-holder with a split.

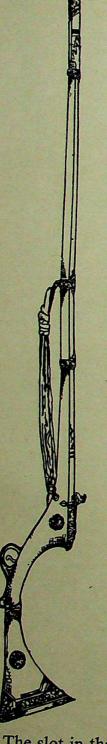
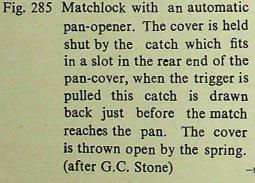
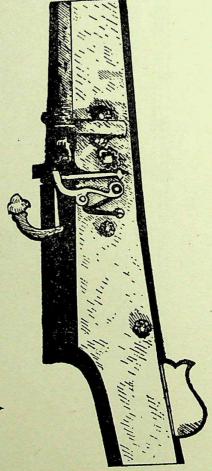


Fig. 284 Matchlock, long barrel. The wooden butt is curved with a broad end. It was held round the shoulders with a long leather strap.

(Based on an actual specimen preserved in the National Museum, New Delhi)





- D. The slot in the stock in which the match-holder works; it was curved so that it moved the match over the pan.
- E. The pivot for the match-holder.
- F. The link.

# G. The pivot for the trigger.

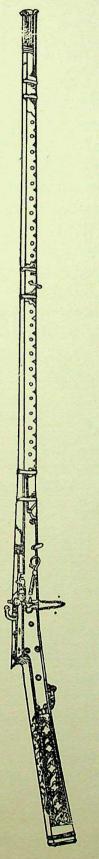
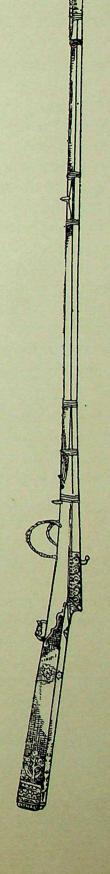


Fig. 286 Matchlock. The S-shaped lever (the serpentine) pivoted to the stock near its centre and forked at its upper end to hold the match. Long barrel, rectangular wooden butt is decorated.

Fig. 287 Matchlock gun. Long barrel with a muzzle-loading rod. Serpentine mechanism. Rectangular is butt ornamented. → Both these figures are based on the actual guns preserved in the National Museum, New Delhi. These are of slightly later date).



H. The spring on the back of the trigger.

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- I. The trigger
- I. The butt
- K. The tripod or pedestal or stand.79

## Matchlocks: technical details

The loading technique was, by and large, the same in all the muzzle-loading fire-arms. The priming powder was loaded in the barrel, from the mouth, with the help of the muzzle-loading rod. This rod was placed in the slit made in the wooden furniture and was always carried with the muzzle-loading fire-arms. A small quantity of gunpowder was first poured in the barrel and was then pressed down with the help of muzzle-loading rod and then round balls of stone (of metal, in later period) were also filled in. The match-cord was kept always lighted. At the time of use the lighted end of the cord was attached to the serpentine lock (which was forked to receive the cord). Now the trigger was pulled and the lighted match came into direct contact with the touch-hole. It may be noted that when the gunpowder was being pressed down the bottom of the barrel a few grains were bound to come out of the touch-hole. When the lighted match ignited the gunpowder on the touch-hole, the entire gunpowder inside the barrel caught fire and it blasted propelling along with it the stone shots (or balls) also.

The butt and the entire furniture (stock) was of wood. The butt was straight or slightly curved down or curved up. The match-cord was bound round the middle of the butt. A curved hook type lock (called 'serpentine lock' or only 'serpentine') was fitted on the upper part and a triangular trigger at the lower part.

The length of the gun varied. Generally these were 1.15 to 1.80 m. The smaller kind of guns have been called  $daman\bar{a}k$  in the  $\bar{A}in$ -i- $Akbar\bar{\imath}$ .

The small matchlocks were carried by the individual soldiers. When not in use it was placed on the left shoulder; barrel placed against the shoulder and the left hand held the lower part of the butt. Alternately, it was held by both the hands and placed against the chest. While using; the butt was placed against the left chest, left hand held the butt and with the right hand trigger was pulled. Sometimes the left hand was placed at the lower part of the point where barrel joined the butt. There was no accurate aim so the weapon was not brought closer to the eyes; there was a distance of about one foot between the eye and the cock and the soldier kept both the eyes opened at the time of firing.

The butt and stock of all the guns have been painted red, green and blue in the illustrations of the  $B\bar{a}bur-n\bar{a}m\bar{a}$ .

Heavy guns such as the *firangī* rested on a tripod and were mostly used in a siege. These wooden tripods were called *shākh-i-tufang*.<sup>81</sup> These were similar to the *jazail* of later period. It has not been mentioned by Abul Fazl. Steingass has defined the *jazail* as "a large musket, a wall-piece swivel, a rifle used with a prong or rest".<sup>82</sup> Egerton has referred to the *jazails* being 2.10 and 2.40 m. long.<sup>83</sup> The *shākh-i-tufang* was a part of the equipment of matchlocks. This was of sturdy wood and fastened with iron chain. The heavy cannons were placed at an angle. For that purpose, a triangular wooden stand consisting of a sloping platform was employed.

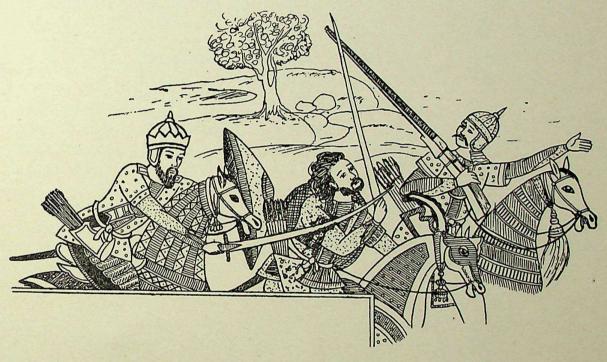


Fig. 288 Excerpt from the illustrated manuscript of the Bābur-nāmā showing fully armoured warriors riding armoured horses and carrying sword, shield, bows, arrows and quivers, one of them is carrying a matchlock gun.

The *tufangs* and *firangī* were rarely used by the cavaliers or elephant-riders of Bābur. They are mostly in the hands of the foot-soldiers.

The matchlocks were used for hunting as well. In one miniature painting Babur's soldiers are shooting a crocodile with their matchlocks.<sup>84</sup>

## Matchlockmen (tufangchīan)

Artillerymen, generally called as  $sair^{85}$  were usually entitled as  $tufangch\bar{\imath}an$ ,  $topach\bar{\imath}$ ,  $goland\bar{a}z$ ,  $barqand\bar{a}z^{86}$  and  $tufangand\bar{a}z$  as the nature of his employment might be (fig. 288). The actual function of these cannot be ascertained. The number of soldiers employed on a gun varied according to its size, weight and function.

It has been stated earlier that on the 6th January, 1519 A.D., in Kābul the

matchlockmen shot through shield, through cuirass and through kusarū. This

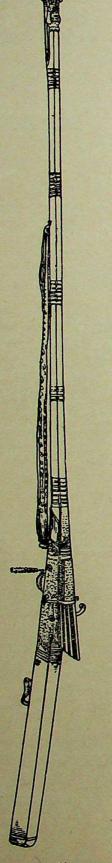


Fig. 289 A matchlock gun, long barrel, rectangular wooden butt. It has a match-holder, a trigger and a cover. The muzzle-loading rod is attached.

kusarū is a puzzling word that might mean cow-horn (kau-sarū) and stand for the

common horn trumpet. Erskine and Courteille have read it as *gau-sar*, explaining it as 'cow-head' and have believed it to be a protection for matchlockmen when loading.<sup>87</sup>

The most reputed among all the matchlockmen was Ustad Alī-qulī who has been called the 'marvel of the age' and has been applauded at several places. His matchlocks shot very well at the time of capturing the fort of Bājaur. Be was ordered to shoot the prisoners arrested by Humāyūn in the first battle of his life. He was ordered to make Rūmī defences at Pānīpat in 1526 A.D. and during the actual battle he fired from the front of the centre. In the battle of Khānwā, Ustād Alī-qulī was at his best and his valiant deeds in the battle were praised by Bābur. Be was, however, very jealous of Mustafā Rūmī. He was how had selected the ground at Chanderī his unfortunately burst. Fi It was he who had selected the ground at Chanderī for placing his guns. His stone-discharge interested Bābur. He had used Ghāzī mortar while the bridge on the Ganges was being constructed. His son also accompanied him who too was a matchlockman and was once rewarded. He had played a very significant role in the battle of Ghāgrā as well.

Mustafā Rūmī tawachī was another matchlockman. His culverin-discharge was heard at Pānīpat.<sup>102</sup> He got the carts made for the defence at Khānwā.<sup>103</sup> He shot very well, first at the battle of Khānwā,<sup>104</sup> then at the time of the construction of the bridge at Ganges<sup>105</sup> and finally in the battle of Ghāgrā.<sup>106</sup>

Some of the foot-soldiers were later converted into matchlockmen. One such case was of Darwesh-i-alī who had brought the news of the birth of Hind- $\bar{a}l^{107}$  to Bābur on March 4th, 1519 A.D. Darwesh-i-alī, who was till then a  $pi\bar{a}d\bar{a}$  (foot-soldiers), was elevated to the rank of  $t\bar{u}fang-and\bar{a}z$ .

How many matchlockmen were in the army of Babur we know not but there were 12000 matchlock-bearers in the army of Akbar. 108

## Mortar (qāzān)

Mortar  $(q\bar{a}z\bar{a}n)$  of  $B\bar{a}$ bur) is a variety of cannon designed for high angle fire and having a powder chamber of smaller diameter than the bore. The earliest large cannons used by  $B\bar{a}$ bur were mortars.

Bābur narrates Sultān Husain Mirzā campaign against Khusrau Shāh in June, 1496 A.D. Sultan Husain Mirzā reached Hisār and besieged its fort. "There was no rest, day or night, from the labours of mining and attack, of working catapults and mortars. Mines were run in four or five places. When one had gone well forward towards the Gate, the townsmen, countermining, struck it and forced smoke down on the Mirzā's men; they, in turn, closed the hole, thus sent the smoke straight back and made the townsmen flee as from the very jaw of death. In the end, the townsmen drove the besiegers out by pouring jar after jar

of water on them. Another day, a party dashed out from the town and drove off the Mirzā's men from their own mine's mouth. Once the discharges from catapults and mortars in the Mirzā's quarters on the north cracked a tower of the fort. Before the shoot of the next day's dawn, the besieged had rebuilt the whole tower, That day too there was no assault; in fact, for the two to two and a half months of the siege, no attack was made except by keeping up the blockage, <sup>109</sup> by mining, rearing head-strikers <sup>110</sup> and discharging stones." <sup>111</sup>

About his campaign against Ahmad Tambal in 1499 A.D., Bābur writes, "Tambal had stationed his younger brother, Khalīl with 200 or 300 men, in Mādū, 112 one of the forts of Aush, renowned in that centre  $(\bar{a}r\bar{a})$  for its strength. We turned back (on the Aūzkint road) to assault it. It is exceedingly strong. Its northern face stands very high above the bed of a torrent; arrows shot from the bed might perhaps reach the ramparts. On this side is the water-thief 113 made like a lane, with ramparts on both sides carried from the fort to the water. Towards the rising ground, on the other sides of the fort, there is a ditch. The torrent being so near, those occupying the fort had carried stones 114 in from it as large as those for large mortars. 115

"From no fort of its class we have ever attacked, have stones been thrown so large as those taken into Mādū. They dropped such a large one of Abdul-qāsim Kohbur, kitta (little) Beg's elder brother, 116 when he went up under the ramparts, that he span head over heels and came rolling, without once getting to his feet, from that great height down to the foot of the glacis (khāk-rez). He did not trouble himself about it at all but just got on his horse and rode off. Again, a stone flung from the double water-way, hit Yār-alī Batal so hard on the head that in the end it had to be trepanned. 117 Many of our men perished by their stones." 118

Monday, October 22nd, 1526 A.D. (15th Muharram, A.H. 933), was a historic day, Ustād Alī-qulī had been ordered by Bābur to cast a large mortar for use against Biana and other forts which had till then not been submitted. When all the furnaces and materials were ready, he sent a message to Bābur and Bābur along with selected persons went to see the mortar cast. 119 Round the mortarmould Ustad Alī-qulī had eight furnaces made in which were the molten materials. From below each furnace a channel went direct to the mould. When he opened the furnace-holes on Babur's arrival, the molten metal poured like water through all these channels into the mould. After a while and before the mould was full, the flow stopped from one furnace after another. Ustād Alī-qulī must have made some miscalculation either as to the furnaces or the materials. In his great distress, he was for throwing himself into the mould of the molten metal, but Bābur comforted him, put a robe of honour on him, and so brought him out of his shame. The mould was left a day or two to cool, when it was opened, Ustad Alī-qulī with great delight sent to say, "The stone-chamber  $(t\bar{a}sh-\bar{a}wi)$  is without defect, to cast the powder-compartment  $(d\bar{a}r\bar{u}-kh\bar{a}n\bar{a})$  is easy."

He got the stone-chamber out and told off a body of men to accourre (salah) it, while he buried himself with casting the powder-compartment." 120

It is clear from the  $t\bar{a}sh$ - $aw\bar{\imath}^{121}$  of the mortar  $(q\bar{a}z\bar{a}n)$  that stones were its missiles. Erskine notes that from Bābur's account cannon would seem sometimes to have been made in parts and clamped together, and that they were frequently formed of iron bars strongly compacted into a circular shape. The accourrement (salah) presumably was the addition of fittings.

On the 10th February, 1527 A.D. (Sunday, the 8th of the month of *Jumāda* I), Bābur went to see Ustād Alī-qulī discharge stone from that large mortar of his in casting which the stone-chamber was without defect and which he had completed afterwards by casting the powder-compartment. It was discharged at the Afternon Prayer; the throw of stone was 1600 paces. A gift was made to the Master of sword-belt, robe of honour and *tīpūchāq* horse.<sup>122</sup>

Between Kachwā and Chāndgiri the country was jungly. On the 18th January, 1528 A.D. Bābur waited a day in Kachwā in order to appoint active overseers and a mass of spadesmen to level the road and cut jungle down, so that the carts and mortar might pass along it easily. It seems that at that time Bābur had only one mortar  $(q\bar{a}z\bar{a}n)$ . 123

On the 22nd January, 1528 A.D. (28th  $Rab\bar{\imath}$  II, A.H. 934) Bābur attacked the renowned fort at Chander $\bar{\imath}^{124}$  and assigned post after post  $(b\bar{u}|\bar{a}r, b\bar{u}|jar)^{125}$  round the walled town  $(q\bar{u}rgh\bar{a}n)$  to centre, right and left. Ustād Al $\bar{\imath}$ -qul $\bar{\imath}$  chose, for his stone discharge, ground that had no fall  $(y\bar{a}ghd\bar{a})$  overseers and spadesmen were told off to raise a place  $(mij\bar{a}r)$  for the mortar to rest on, and the whole army was ordered to get ready appliances for taking a fort, mantelets, ladders and . . . mantelets  $(t\bar{u}ra)^{127}$ . The Persian translation of the word  $y\bar{a}ghd\bar{a}$  is  $sar-\bar{a}-sh\bar{a}b$ . Bābur's remark seems to show that for effects his mortar needed to be higher than its object. Presumably it stood on the table-land, north of the citadel.

On Thursday, the 6th of the latter Jumāda, A.H. 934 (27th Feb., 1528 A.D.), we passed Qanuj and dismounted on the western bank of Gang. Some of the braves went up and down the river and took boats by force, 128 bringing in 30 to 40 large or small. Mīr Muhammed, the raftman, was sent to find a place convenient for making a bridge and to collect requisites for making it. He came back approving of a place about a kuroh (2 miles) below the camp. Energetic overseers were told off for the work. Ustād Alī-qulī placed the mortar for his stone-discharge near where the bridge was to be and showth himself active in discharging it. Mustafā Rūmī had the culverin-carts crossed over to an island below the place for the bridge and from that island began a culverin-discharge. Excellent matchlock fire was made from a post<sup>129</sup> raised above the bridge.

In the days before the bridge was finished Ustād Alī-qulī did good things in stone-discharge (yakh- $shit\bar{a}r$   $t\bar{a}sh$   $ait\bar{\imath}$ ), on the first day discharging eight stones, on the second sixteen and going on equally well for three or four days. These stones he discharged from the Ghāzī mortar which is so called because it was used in the battle with Rāṇā Sāngā, the pagan. There had been another and larger mortar<sup>130</sup> which burst after discharging one stone. The matchlockmen made a mass ( $q\bar{a}l\bar{\imath}n$ ) of discharges, bringing down many men and horses, they shot also slave workmen running scared away (?) and men and horses passing by."<sup>131</sup>

"I had the large mortar taken to the fighting ground, left Mullā Ghulām to superintend the making of its position, appointed a body of Vasāwals and active braves to help him, went to an island facing the camp and there ate majūn" 132.

The mortars were dragged by the elephants. About the Indian elephants Bābur says, "It has some useful qualities—it crosses great rivers with ease carrying a mass of baggage, and three or four have gone dragging without trouble the cart of the mortar  $(q\bar{a}z\bar{a}n)$  it takes four or five hundred men to haul". 133

On the 16th Feb. 1529 A.D., some carts and mortars were loaded on boats.

#### Stone

The missiles used in all kinds of fire-arms of Bābur's time were of stone. They were even hurled by hand. 134 It was discharged from catapults, 135 mortars and matchlocks. 136

Khwānd-amir's contemporary narrative states that Bābur was resolved in A.H. 926 (1520 A.D.) to uproot Shāh Shujā Bēg from Qāndhār. Shāh Bēg, unable to meet Bābur in the field shot himself up in the town and strengthened the defences. Bābur put his utmost pressure on the besieged, "often riding his piebald horse close to the moat and urging his men to fire on set". The garrison resisted manfully, breaching the life-fortresses of the Kābulīs with sword, arrow, spear and death-dealing stone, but Bābur's heroes were most often victorious and drove their assailants back through the Gates. 137

At dawn on Wednesday, the 7th of the first  $Jum\bar{a}da$  A.H. 934 (29th Jan., 1528 A.D.) we ordered our men to arm, go to their posts, provoke to fight and attack each from his place when I rode out with drum and standard. I myself dismissing drum and standard till the fighting should grow hot, went to amuse myself by watching Ustād Alī-qulī's stone-discharge. Nothing was effected by it because his ground had no fall  $(y\bar{a}ghd\bar{a})$  and because the fort-walls being entirely of stone, were extremely strong.

Down one side of the hill (on which stood the citadel of Chanderi) ran a double-walled road  $(d\bar{u}tah\bar{t})^{139}$  to water. This is the one place for attack; it had

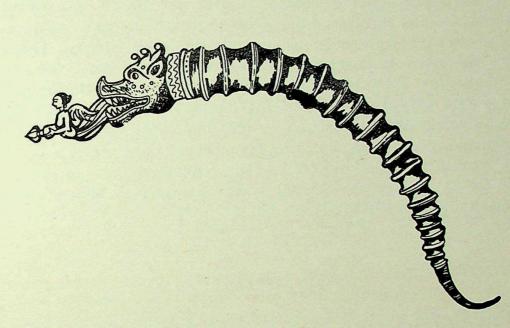


Fig. 290 Gunpowder flask of ivory. A figure issuing forth from the mouth of a dragon (Based an on actual specimen).

been assigned as the post of the right and left hands and royal corps of the centre Hurled through assault was from every side, the greatest force was here brought to bear. Our braves did not turn back, however, much the pagan threw down stones and flung flaming fire upon them. At length Shāhim the centurion,  $^{141}$  got up where  $d\bar{u}tah\bar{\iota}$  wall touches the wall of the outer fort, braves swarmed up other places; the  $d\bar{u}tah\bar{\iota}$  was taken'.  $^{142}$ 

# Technical details of Baburid mortars

The heavy pieces of cannon were long barrelled, gradually narrowing towards the end.<sup>143</sup> The muzzle was shaped like a funnel. It had four metal loops for ropes at the time of pulling. The barrels were embellished with engraved designs and fastened with metal bands.

Abul Fazl records that heavier cannons were transported by several elephants and a thousand cattle. The cannons were dragged unmounted on the road. Special carts were prepared for such heavy cannons. The wooden cart, made to the size, was long enough and had a circular groove in the middle to accommodate the barrel. There were four wheels, two on each side, attached to the cart.

A variant of the cannon was  $gajn\bar{a}l$ , very rarely found in the paintings of Akbar's time. It was heavier than tufang,  $firang\bar{\imath}$  and  $narn\bar{a}l$  but lighter than  $gajn\bar{a}l$ . It was kept in a  $howd\bar{a}h$  and carried on the back of the elephants. 146

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### Conclusion

Bābur established his military superiority over the Indian princes by dint of his fire-arms. Cavalry still played the decisive role and Bābur's great reliance was on his mounted archers yet he rightly boasted of his artillery. Timūr, his predesessor, had taken keen interest in the manufacture of guns, who import. ed several gunsmiths from Turkey to prepare guns for him. During Akbar's time fire-arms were made under the personal direction of the Emperor. Owing to his inventive genius and deep interest several improvements were also made. On every matchlock its weight, place of manufacture, date, maker's name and other details were engraved. Abul Fazl<sup>147</sup> rightly remarked that except Turkey there was no other country which could have equalled the Mughal emperor in the production and use of fire-arms.

### REFERENCES

- 1. See appendix IV "Fire-arms in India before the advent of Bābur". Fire-arms are generally supposed to have been first used in Europe in the 14th century although gunpowder had probably been known earlier. The first gun was merely a tube with a handle and touch-hole, to which a lighted match, held in the hands, was applied.
- 2. The natural chronological classification of guns is by the method of ignition hand guns, matchlocks, wheellocks, flintlocks, detonators, percussion and finally breech-loaders. The entire series has been used in Europe. The Turks in consequence of their constant intercourse with the nation of the West have always excelled all other Orientals in the use of artillery, and when heavy cannon was first used in India, Europeans or Turks were engaged to serve them. It is owing, no doubt, to the preceeding gap in his writings that we are deprived of his own introduction to fire-arms in India.
- 3. A.D. Forbes, Hindoo Annals of the Province of Gujarat, p. 283. Also see M.A. Commissariat, A History of Gujarat, vol, I (Bombay, 1957), p, 259.
- 4. A.S. Beveridge (tr.), Bābur-nāmā (Memoirs of Bābur), reprinted vols. I and II in one format (New Delhi, 1979), p. 468, f.n., 3.
- 5. Erskine further says that all these 700 guns were inherited by Humāyūn who had them with him in 1540 A.D. at the battle of Kanauj.
- 6. Elliot and Dowson, History of India as Told by Its Historians, vol. VI, reprinted (Allahabad, 1964), appendix "The Early Use of Gunpowder in India".
- 7. A.S. Beveridge, op. cit., tr. p. 469, f.n.
- 8. Modern Turkey in Asia particularly the provinces near Trebizond (Erskine). The Turkey soldiers (Rūmī) were reputed for making defence of connected carts in the battle-field.
- 9. Khirad, 'intelligence' or the 'first intelligence', was supposed to be the guardian of the empyreal heaven (Erskine).
- 10. Bābur-nāmā, f. 319, tr. pp. 564-5.
- 11. Ibid., f. 350, tr. pp. 627-28.
- 12. The demon sultan of Rumelia: one Tahmasp's guardian vide, Tazkirāt-Tahmasp, Bib. Ind. ed. Philott, p. 2) and was later put to death by Tahmasp himself.
- 13. The number of Tahmāsp's (the then ruler of Persia) guns being a matter of interest reference should be made to Bābur's account of his own battles in which he arranged in

Rūmī (Ottoman) fashion; it will then be seen that the number of carts does not employ the number of guns.

- It refers to Tahmasp who was on the battle-field. He was 14 years old hence called Shahzada 14 and not Shah, Babur hitherto has always called the boy, 'Shahzada'; after the victory at Jam, he styles him 'Shāh'.
- 15. Bābur-nāmā, f. 354, tr. p. 635.
- 16. Zarb-zanlik arābalar. Here the carts are those carrying the guns.
- 17. Ibid., f. 363 b, tr. p. 656.
- 18. William Irvine, Army of the Indian Moghuls, reprinted (Delhi, 1962), p. 116.
- 19. Cf., Irvine, ibid., p. 27. He goes to the extent in recording that the Mughals never became proficient in the artillery. Notamanus (Hājī, Mustaphā) compares the Mughal artillery of the 18th century and calls it as backward as the European was three hundred years, vide, Seir Mutaqherin (tr.), vol. I, p. 409, n. 19.
- 20. M.K. Zaman, Mughal Artillery (Delhi, 1983), p. 5.
- 21. Tārīkh-i-Rashīdī (tr.), E. Denison Ross (Patna, 1973), p. 474.
- 22. G.N. Pant, Studies in Indian Weapons and Warfare (New Delhi, 1970), p. 173.
- 23. Blochmann, op. cit., I, pp. 119-123.
- 24. Ibid., p. 119.
- dim kūrūldī Here L and E Memoirs insert an explanatory passage in Persian about the dim. 25. It will have been in one of Wāqiāt-i-Bāburī manuscript Erskine used; it is in Muh. Shirāzī's lithographed copy of the Udaipur codex (p. 173). It is not in the Turki text or in all the manuscripts of the Persian translation. Manifestly, it was entered at a time when Babur's term dim kūrūldī requires explanation in Hindustān. The writer of it himself does not make details clear; he says only, "It is manifest that many people declare (the number) after counting the mounted army in the way agreed upon amongst them, with a whip or a bow held in the hand". This explanation suggests that in the march-past the troops were measured off as so many bow-or-whip lengths. Cf., A.S. Beveridge, op. cit., p. 468 f.n.
- 26. These Ottoman (in the text called Rūmī i.e.., Roman) defences Ustad Ali-quli may have seen at the battle of Chaldiran fought some forty leagues from Tabriz between Sl. Salim Rumi and Shāh Ismāil Safāwī on Rajab 1st, A.H. 920 (August 22nd, 1514 A D.). Of this battle Khwand amir gives a long account, dwelling on the effective use made in it of chained carts and palisades (Habibu'ssiyār, iii, part 4, p. 78; Akbar-nāmā (tr.), i, 241.
- 27. Bābur-nāmā, f. 264, tr. pp. 468-9.
- This force was headed by Abdul Aziz who started from Sīkrī and moved towards Khānwā. 28. He was defeated and many of the Mughal soldiers were made prisoners.
- 29. Bābur-nāmā, f 310 b, tr. p. 550.
- 30. Erskine and de Courteille both give Mustafa the commedation the Turki and Persian texts give to the carts.
- 31. Bābur-nāmā, f. 310 b, tr. p. 550
- 32 According to the Persian calendar this is the day Sun enters Aries.
- The practical purpose of this order of march is shown in the account of the battle of 33. Pānīpat and in the letter of victory (Bābur-nāmā, f. 319), described earlier.
- Bābur-nāmā, f. 315 b, tr. pp. 557-58. 34.
- viz., those chained together as a defence and probably those conveying the culverins. 35.
- The comparison may be between the darkening smoke of the fire-arms and the heresy 36. darkening pagan hearts (Bābur-nāmā, f. 321 b, tr. pp. 568-9.)
- Bābur-nāmā, f. 323, tr. p. 571.
- The bed of the Betwa opposite Chanders is 1050 feet above sea; the walled town ((gurghān) of Chandéri is on a table-land 250 ft. higher and its citadel is 230 ft. higher again (cf., A. Cunningham, Archaeological Survey Report, 1871 A.D., ii, 404).

- The plan of Chanderi illustrating Cunningham's report (see note above) allows surmise about the road taken by Babur, surmise which could become knowledge if the names of the 39. tanks he gives were still known.
- Bābur-nāmā, f. 333, tr. p. 592. 40.
- Alvi and Rahman, Fathullāh Shirāzī (New Delhi, 1968), p. 16. Fathullāh was a religious scholar and travelled to India from Iran to join the court of Adil Shah II of Bijapur. He 41. left Bijāpur court in 1580 A.D. and joined the nobility at Agra. He was a man of remarkable talents and versatile accomplishments and is reputed to have designed a variety of guns and their auxiliary equipments which suggest advancements.
- G.C. Stone, A Glossary of the Construction, Decoration and Use of Arms and Armor in all Countries and in all Times, reprinted (New York, 1961), p. 441, figs. 560-1.
- Aushūl gūnī, which contrasts with the frequent aushbū gūnī (this same day, today) of manifestly diary entries; it may indicate that the full account of the siege is a latter 43. supplement.
- 44. For explanation of the word kasāru see infra under 'matchlockmen'.
- Bābur-nāmā, f. 217, tr. pp. 368-9.
- 46. Ibid., f. 263, tr. p. 466.
- 47. Ibid., f. 306 b, tr. p. 543.
- hizābran-i-beshā yakrangi, literally 'forest tigers (or lions) of one hue'. 48.
- There may be reference here to the chains used to connect the carts into a defence. 49.
- The braves of the khāsa tabin were part of Bābur's own centre. 50.
- Perhaps the cataphract elephants; perhaps the men in mail. 51.
- Holy Quran, cap. 101, v. 54. 52.
- Ibid., cap. 101, v. 4. 53.
- Bābur-nāmā, f. 322 b, tr. pp. 570-71. 54.
- Ibid., f. 324, tr. p. 573. 55.
- Cf., f. 318 b and note, where it is seen that the stones, which killed the lords of the 56. elephants, were so small as to be carried in the bill of a bird like a swallow. Were such stones used in matchlocks in Bābur's time?
- Guzaran, var. gurazan, caused to flee and hogs (Erskine notes the double meaning). 57.
- Bābur-nāmā, f. 324 b, tr. p. 573. 58.
- Ibid., f. 337, tr. p. 600. 59.
- On Muh. 10th, 934 A.H. (September 26th, 1528 A.D.). For accounts of the campaign see Rieu's Suppl. Persian Cat. under 'Histories of Tahmasp' (Churchill Collection); Habību's-siyār and the Alam-ardī-abbāsī, the last highly rhetorical work. Bābur's accounts are merely repititions of news given to him; he is not responsible for mistakes in records such as those
- 61. tufak u arāba, the method of array Bābur adopted from the Rūmī Persian model.
- 62. Bābur-nāmā, f. 347, tr. p. 622.
- The word firangi (also spelt farang, phirangi and farangis literally means a 'foreigner'. It also refers to a 'Marathā cut-and-thrust-straight-bladed'sword. For details see G.N. Pant, Indian Arms and Armour, vol. II (New Delhi, 1980), p. 43, figs. 54-55.
- Bābur-nāmā, f. 217 b, tr. p. 369.
- De Courteille, pierrier, which may be a balista. Bābur's writings give no indication of other than stone ammunition for any projectile engine or fire-arms, cf., R.W.F. Payne-Gallwey's Projectile-throwing Engines of the Ancients.

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- 66. R.W.F. Payne-Gallwey writes in The Cross-bow (pp. 40-41) what may apply to Bābur's zarb-zan (culverin?) and tufang (matchlock), when he describes the larger culverin as a heavy hand-gun of from 16-18 pounds, as used by the foot-soldier and requiring the assistance of an attendant to work it; also when he says that it became the portable arquebus which was in extensive use in Europe by the Swiss in 1476 A.D.; and that between 1510 and 1520 the arquebus described was superseded by what is still seen amongst remote tribes in India, a matchlock arquebus.
- The two positions Babur selected for his guns would seem to have been opposite two 67. ferry-heads, those presumably, which were blocked against his pursuit of Biban and Bayajid. Alī-qulī's emplacement will have been on the high banks of old alluvium of southeastern Kharid, overlooking the narrowed channel demanded by Bābur's narrative.
- 68. Mustafā, like Alī-quli, was to take the offensive by gunfire directed on the opposite bank.
- Bābur-nāmā, f. 370, tr. p. 667-68. 69.
- This passage presupposes that guns in Kharid could hit the hostile camp in Saran. If the river narrowed here as it does further north, the Ghazi mortar, which seems to have been 70. the only one Babur had with him, would have carried across, since it threw a stone 1600 paces (qadam, see folio 309).
- 71. Bābur-nāmā, f. 370 b, tr., p. 669.
- 72. Ibid., f. 371 b, tr. p. 670.
- 73. S.P. Verma, op. cit., pl. LXIII, fig. 6.
- In the 18th century many European adventurers commanded armies for the Indian princes. The ablest of these was de Boigne, a Savoyard, who organized and equipped an army for Scindia. He had his own arsenal at Agra in charge of a Scotchman named Sangster, where he made both cannon and small arms for his troops. At Agra he made matchlocks with bayonets and locks of an improved design (vide, Herbert Compton, The European Military Adventurers of Hindustan (London, 1893), p. 47). G.C. Stone (op. cit., p. 443, fig. 564), has reproduced one lock which might have been made by Sangster. The pan is automatically uncovered by a spring which is released when the trigger is pulled. This gun also had a bayonet. Such matchlocks were used by the Mughal soldiers in the 18th century.
- Āin-i-Akbari, Āin. 36; tr. Blochmann, p. 119. 75.
- 76. Ibid.
- 77. S.P. Verma, op. cit., p. 94, pl. LXIII, figs. 1-3.
- 78. M.K. Zaman, op cit., p. 14, f.n.
- 79. G.C. Stone, op.cit., p. 441, fig. 562.
- 80. Blochmann (tr.), op. cit., p. 120.
- 81. W. Irvine, op. cit., p. 104.
- 82. F. Steingass, op. cit., S.V. Jazail.
- 83. Egerton, op. cit., p. 126.
- 84. M.S. Randhawa, Paintings of the Bābur-nāmā (National Museum, New Delhi, 1983), pl. XX. The matchlocks of Akbar's period were of two sizes, 66 inches and 44 inches.
- 85. William Irvine, op. cit., p. 158.
- 86. Barqandāz, as per Abul Fazl, were mounted artillerymen, i.e., matchlockmen on horse.
- A.S. Beveridge (tr.), p. 369, f.n., that the word is baffling and is shown by its omission in I. O. 215 (f. 178 b), in 217 (f. 149 b) and in Muh. Shirazi's lith ed. (p. 137). 87.
- 88. Bābur-nāmā, f. 217, tr. p. 369.
- 89. Ibid., f. 263, tr, p. 466.
- 90. Ibid., f. 264, tr. p. 469.
- 91. Ibid., f. 266 b, tr. p. 473.

- 92. Ibid., f. 315 b, tr. p. 558.
- 93. Ibid,, f, 322 b, tr. pp. 570-71.
- 94. Ibid., f. 311, tr, p. 550. This was the reason that Mustafā was posted to the right, in front of Humāyūn, away from Ustād Alī-qulī in the battle of Khānwā.
- Ibid., f. 302 b, tr. p. 536. 95.
- 96. Ibid., f. 331 b, tr. p. 588.
- 97. Ibid., f. 333, tr. p. 593.
- 98. Ibid., f. 334, tr. p. 595; f. 371 b, tr. p. 670.
- 99. Ibid., f. 336 b, tr. p. 599.
- 100. Ibid., f. 353 b, tr. p. 633.
- 101. Ibid., f. 370, tr. p 667.
- 102. Ibid., f. 267, tr. p. 474.
- 103. Ibid., f. 311, tr. p. 550.
- 104. Ibid., f. 321 b, tr. p. 568.
- 105. Ibid., f. 336 b, tr. p. 599.
- Ibid., f. 370, tr. p. 668. 106.
- As the news of the birth of the son came during the expedition into Hindustan, Babur took 107. it as an omen, and gave the name 'Hind-al' (taking of Hind).
- Ain-i-Akbari, tr. p. 261. 108.
- 109. Siyāsat. The translation of Beveridge is conjectural only.
- Sar-kob. Probably it expresses the purpose of the high wall erections of wood or earth 110. raised to reach what showed above ramparts.
- Bābur-nāmā, f. 34 b, tr. p. 59. 111.
- Modern Mazy, on the main Aush-Kashghar-road. 112.
- The term used is āb-duzd. 113.
- This simile seems the fruit of experience in Hindustan. Similar arrangement was made by 114. Babur to bombard the fort of Chanderi.
- Bābur-nāmā, f. 67, tr. p. 109. 115.
- These two Mughals rebelled in A.H. 914 with Sl. Qulī Chunāq. 116.
- awidi. The head of Captain Dow, fractured at Chunar by a stone flung at it, was trepanned 117. (saiyar-i-mutaākhirin). Yār-alī was alive in A.H. 918. He seems to be the father of the great Bairam Khān-i-khānān of Akbar's reign.
- Bābur-nāmā, f. 67 b, tr. p. 109. 118.
- Ibid., f. 302 b, tr. pp. 536-37. 119.
- Bābur-nāmā, f. 30 b, tr p. 537 f.n. 120.
- 121. Persian translation khānā-i-sang.
- Bāhur-nāmā, f. 309, tr. p. 547. 122.
- From the narration on folio 337 (tr. p. 599) it becomes clear that Bābur's mortars were few. 123.
- Bābur-nāmā, f. 333, tr. p. 592. 124.
- Here and in similar passages the word miljar or milchar is found in Mss. where the meaning 125. is that of buljar. Irvine translates it as "approach by trenches" and this does not suit its use in the Babur-nama of a military post, and a rendezvous. Shaw in his vocabulary enters buljar (buljag?) "a station for troops. a rendezvous". The word malja has the meaning of a standing place as well as those of a refuge and an asylum : both meanings seen combined in the miljar of folio 336 b matchlockmen a miljar was ordered "raised". Cf., Irvine, Army of the Indian Moghuls, p. 278.

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Shatu. It may be noted that this word, common in accounts of Babur's sieges, may explain one William Irvine left undeciphered (p. 278), viz. shatur. On p. 281, he states that nardubān is the name of a scaling-ladder and that Babur mentions scaling-ladders more than once. Bābur mentions them, however, always as shatu. Perhaps shatur, which, as Irvine says, seems to be made of the trunks of trees and to be a siege appliance is really shatuu (ladder and......) as in the passage under note and on folio 216 b, some other name of an appliance following.

The word here preceeding tūra has puzzled scribes and translaters. Two roots tig and yug 127. offered plausible explanations of the unknown word; appliances suiting the case and able to bear names formed from one or other of these roots are "wheeled mantlet" and headstrike (Persian sar-kob),

Obviously for the bridge. 128.

Miljar (see folio 333 notes). Here the word would mean befittingly a protected standing-129. place, a refuge, such as matchlockmen used (vide, folio 217 also see arāba).

This reference proves (cf., folio 331 b) that Bābur did not bring many mortars with him. 130.

Bābur-nāmā, f. 336 b, tr. p. 599. 131.

132. Cf., Bābur-nāmā, f. 303 (tr. p. 537 f.n.); f. 309 (tr. p. 547); f. 331 b (tr. p. 588), and f. 337 (tr. p. 599 f.n.).

133. Ibid., f. 275, tr. p. 489.

134. Bābur-nāmā, f. 67 (tr. p. 109); f. 218 (tr. p. 370); f. 334 b, (tr. p. 595).

135. Ibid., f. 34 b, tr. p. 59.

136. Ibid., tr. pp. 109, 369, 431-73, 571-88.

137. Bābur-nāmā, tr. p. 433.

- The Illustrated London News of July 10th, 1915, has a apropos picture of an ancient 138. fortress-gun, with its stone-ammunition, taken by the British in a Dardancelles fort.
- The du-tahī is the ab-duzd, water-thief, of folio 67. Its position can be surmised from 139. Alexander Cunninghan's plans of Chanders and Gwalior in the Archaeological Survey Report, 1871.
- For Bābur's use of hand (qul) as a military term see folio 209 where Bābur records, "For my 140. immediate command (khāsa takīn) I had selected braves from whose hands come work and had inscribed them by tens and fifties, each ten and each fifty under leader who knew the post in the right or left of the centre for his ten or his fifty, knew the work of each in the battle and was there on the observant watch; so that, after mounting, the right and left, hands, right and left sides, charged right and left without the trouble of arraying them or the need of a tawāchi''. The tawāchī was a sort of adjutant who attended to the order of the troops and carried orders from the general (Erskine).
- 141. His full designation would be Shāh Muhammad yuz-bégī.

142. Bābur-nāmā, f. 334 b, tr. p. 595.

S.P. Verma, op. cit., p. 94, pl. LXIII, fig. 4.

Vide, illustrated copy of the Akbar-nāmā, pl. 72 in the Victoria and Albert Museum, 144. London.

S.P. Verma, op.cit., p. 95. pl. LXIII, fig. 5. 145.

Abul Fazl has stated that there were separate guns for sieges and naval engagements but 146. has given no description.

Blochmann (tr.), p. 119; Ain-i-Akbari, Ain. 36.

# Appendix I

FIRST BATTLE OF PĀNIPAT (From the *Bābur-nāmā* (tr.), pp. 463-478)

#### Babur advances against Ibrahim

After despatching the light troop against Ghāzī Khān, I put my foot in the stirrup of resolution, set my hand on the rein of trust in God, and moved forward against Sultān Ibrāhīm, son of Buhlūl Ludī Afghān, in possession of whose throne at that time were the Delhī capital and the dominions of Hindustān, whose standing army was called a  $l\bar{a}k$  (100,000), whose elephants and whose  $b\bar{e}gs$  elephants were about 1000.

At the end of our first stage, I bestowed Dibalpur on Baqī shaqhawāl and sent him to help Balkh: sent also gifts, taken in the success of Milwāt, for (my) younger children, and various train in Kābul.

When we had made one or two marches down the (Jaswan)  $d\bar{u}n$ , Shāh 'Imad Shirāzī arrived from Araish Khān and Mullā Muhammad Mazhab, bringing letters that conveyed their good wishes for the complete success of our campaign and indicated their effort and endeavour towards this. In response, we sent, by a foot-man, royal letters expressing our favour. We then marched on.

# Alam Khan takes refuge with Babur

The light troop we had sent out from Milwāt (Malot), took Hurur, Kahlur and all the hill-forts of the neighbourhood—places to which because of their strength, no one seemed to have gone for a long time—and came back to me after plundering a little. Came also  $\overline{A}$ lam  $\overline{K}$ h $\overline{a}$ n, on foot, ruined, stripped bare. We sent some of the  $b\bar{e}gs$  to give him honourable meeting, sent horses too, and he waited (malavamat qild $\bar{i}$ ) in that neighbourhood.

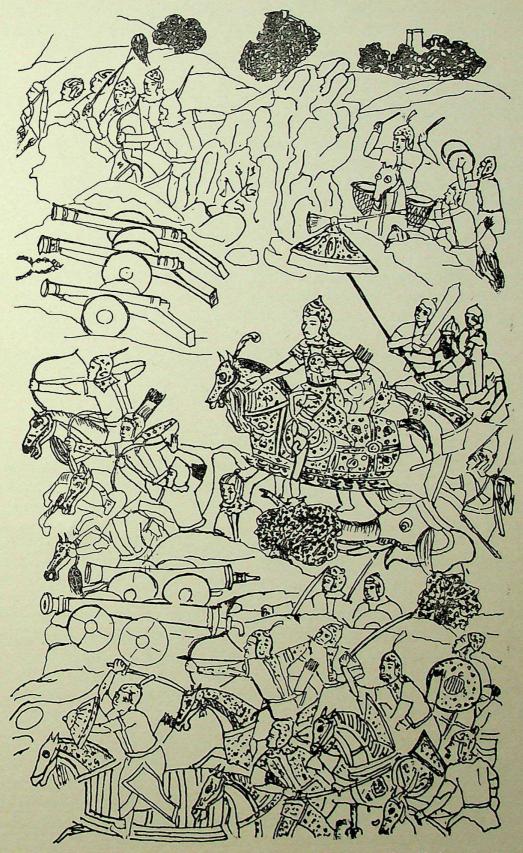


Fig. 291 The battle of Pānīpat. Between the guns, soldiers armed with bows and arrows are making sallies. Drummers are beating the drums to infuse courage among the attackers. On the top of the painting is shown the town of Pānīpat (from the Bābur-nāmā).

Raiders of ours went into the hills and vallies round about, but after a few nights' abscence, came back without anything to count. Shāh Mīr Hussain, Jān Bēg and a few of the braves asked leave and went off for a raid.

## Incidents of the march for Panipat

While we were in the (Jaswān)  $d\bar{u}n$ , dutiful letters had come more than once from Ismāil Jilwānī and Bibāb; we replied to them from this place by royal letters such as their hearts desired. After we got out of the dale to  $R\bar{u}$ par, it rained very much and became so cold that a mass of starved and naked Hindustānīs died.

When we had left Rūpar and were dismounted at Karal, opposite Sihrind, a Hindustānī coming said, "I am Sl. Ibrāhīm's envoy," and though he had no letter or credentials, asked for an envoy from us. We responded at once by sending one or two Sawadī night-guards (tunqitar). These humble persons Ibrāhīm put in prison; they made their escape and came back to us on the very day we beat him.

After having halted one night on the way, we dismounted on the bank of the torrent of Bānur and Sānur. Great rivers apart, one running water there is in Hindustān, is this; they call it the water of Kākar (Ghaggar). Chitr also is on its bank. We rode up it for an excursion. The rising-place (zih) of the water of this torrent (rud) is 3 or 4 kurohs (6-8 miles) above Chitr. Going up the (Kākar) torrent, we came to where a 4 or 5 millstream issues faom a broad (side) valley (dara), up which there are very pleasant places, healthy and convenient. I ordered a Chārbāgh to be made at the mouth of the broad valley of this (tributary) water, which falls into the (Kākar) torrent after flowing for one or two kurohs through level ground. From its infall to the springs of the Kākar the distance may be 3 to 4 kurohs (6-8 miles). When it comes down in flood during the rains and joins the Kākar, they go together to Samanā and Sanam.

In this camp we heard that Sl. Ibrāhīm had been on our side of Dehli and had moved on from that stations, also that Hāmid Khān khāsa-khail, the military-collector (shiqdar) of Hisar Ffiruzā, had left that place with its army and with the army of its neighbourhood, and had advanced 10 or 15 kurohs (20-30 miles). Kittā Bēg was sent for news to Ibrāhīm's camp, and Mūmin Atakā to the Hissar Firūzā camp.

# Humāyūn moves against Hāmid Khān

(Feb. 25th, 1526 A.D.). Marching from Ambālā, we dismounted by the side of a lake. There Mūmin Atakā and Kittā Bēg rejoined us, both on the same day, Sunday, the 13th of the first Jumāda.

We appointed Humāyūn to act against Hāmid Khān, and joined the whole of the right (wing) to him, that is to say, Khwājā Kalān, Sl. Muhammad Duldai, Treasurer Walī, and also some of the bégs whose posts were in Hindustān,

namely, Khusrau, Hindū Bēg Abdu'l-aziā and Muhammad Alī Jang-jang, with also from the household and braves of the centre, Shāh Mansūr Barlās, Kittā Bēg and Muhibb-i-alī.

Biban waited on me in this camp. These Afghans remain very rustic and tactless. This person asked to sit although Dilāwar Khān, his superior in following and in rank, did not sit, and although the sons of Ālām Khān, who are of royal birth, did not sit. Little ear was lent to his unreason.

(Feb. 26th). At dawn on Monday, the 14th, Humāyūn moved out against Hāmid Khān. After advancing for some distance, he sent between 100 and 150 braves scouting ahead, who went close up to the enemy and at once got to grips. But when after a few encounters, the dark mass of Humāyūn's troops shewed in the rear, the enemy ran right away. Humāyūn's men unhorsed from 100 to 200, struck the heads off one half and brought the other half in, together with 7 or 8 elephants.

(March 2nd). On Friday, the 18th of the month, Beg Mirak Mughul brought news of Humāyūn's victory to the camp. He (Humāyūn?) was there and then given a special head-to-foot and a special horse from the royal stable, besides promise of guerdon ( $juld\bar{u}$ ).

(March 5th). On Monday, the 25th of the month, Humāyūn arrived to wait on me, bringing with him as many as 100 prisoners and 7 or 8 elephants. Ustād Alī-qulī and the matchlockmen were ordered to shoot all the prisoners, by way of example. This had been Humāyūn's first affair, his first experience of battle; it was an excellent omen.

Our men who had gone in pursuit of the fugitives, took Hissār Firūzā at once on arrival, plundered it, and returned to us. It was given in guerdon to Humāyūn, with all its dependencies and appurtenances, with it also a kror of money.

We marched from that camp to Shāhābād. After we had despatched a newsgather  $(til-tut\bar{a}r\ kish\bar{\imath})$  to Sl. Ibrāhīm's camp, we stayed a few days on that ground. Rahmat, the foot-man, was sent with the letters of victory to Kābul.

#### News of Ibrahim

(March 13th). On Monday, the 28th of the first Jumāda, we being in the same camps, the Sun entered the Sign of the Ram. News had come again and again from Ibrāhīm's camp, "He is coming, marching two miles" or "four miles", "stopping in each camp two days", or "three days". We for our part advanced from Shāhābād and after halting on two nights, reached the bank of the Jūn river (Jumnā) and encamped oppoite Sarsawā. From that ground Khwājā Kalān's servant Haidar-qulī was sent to get news (til tuita).

Having crossed the Jun river at a ford, I visited Sarsawa. That day also we

ate ma'jun. Sarsawā has a source  $(chashm\bar{a})$  from which a smallish stream issues, not a bad place. Tārdi Bēg  $kh\bar{a}ks\bar{a}r$  praising it, I said, "Let it be thine", so just because he praised it, Sarsawā was given to him.

I had a platform fixed in a boat and used to go for excursions on the river, sometimes too made the marches down it. Two marches along its bank had been made when, of those sent to gather news, Haidar-qulī brought word that Ibrāhīm had sent Dāud Khān (Ludī) and Hātim Khān (Ludī) across the river into the Miān-du-āb (between-waters) with 5 or 6000 men, and that these lay encamped some 6 or 7 miles from his own.

#### A successful encounter

(April 1st). On Sunday, the 18th of the second Jumāda, we sent, to ride light against this force. Chin-timūr Sultān, Mahdī Khwājā, Muhammad Sl. Mirzā, Adil Sultān, and the whole of the left, namely, Sl. Junaid, Shāh Mīr Husain Qutluq-qadam, and with them also sent Abdu'l-lāh and Kittā Bēg (of the centre). They crossed from our side of the water at the Mid-day Prayer, and between the Afternoon and the Evening Prayers bestirred themselves from the other bank. Biban having crossed the water on pretext of this movement, ran away.

(April 2nd). At day-break they came upon the enemy; he made as if coming out in a sort of array, but our men closed with his at once, overcame them, hustled them off, pursued and unhorsed them till they were opposite Ibrāhīm's own camp. Hātim Khān was one of those unhorsed, who was Dāud Khān (Ludīs), elder brother and one of his commanders. Our men brought him in when they waited on me. They brought also 60-70 prisoners and 6 or 7 elephants. Most of the prisoners, by way of warning, were made to reach their death-doom.

# Preparations for battle (fig. 291)

While we were marching on in array of right, left and centre, the army was numbered; it did not count up to what had been estimated.

At our next camp it was ordered that every man in the army should collect carts, each one according to his circumstances. Seven hundred carts  $(ar\bar{a}ba)$  were brought in. The order given to Ustād Alī-qulī was that these carts should be joined together in Ottoman fashion, but using ropes of raw hide instead of chains, and that between every two carts 5 or 6 mantelets should be fixed, behind which the matchlockmen were to stand to fire. To allow of collecting all appliances, we delayed 5 or 6 days in that camp. When everything was ready, all the bėgs with such braves as had experience in military affairs were summoned to a General Council where opinion found decision at this:—Pānīpat is there with its crowded houses and suburbs. It would be on one side of us; our other sides must be protected by carts and mantelets behind which our foot and matchlock-

men would stand. With so much settled we marched forward, halted one night on the way. and reached Panipat on Thursday, the last day 29th of the second  $Jum\bar{a}da$  (April 12th, 1526 A.D.)

#### The opposed forces

On our right was the town of Panipat with its suburbs; in front of us were the carts and mantelets we had prepared; on our left and elsewhere were ditch and branch. At distances of an arrow's flight sally-places were left for from 100 to 200 horsemen.

Some in the army were very anxious and full of fear. Nothing recommends anxiety and fear. For why? Because what God has fixed in eternity cannot be changed. But though this is so, it was no reproach to be afraid and anxious. For why? Because those thus anxious and afraid were there with a two or three months' journey between them and their homes; our affair was with a foreign tribe and people; none knew their tongue, nor did they know ours:—

A wandering band, with mind awander; In the grip of a tribe, a tribe unfamiliar.

People estimated the army opposing us at 100,000 men; Ibrāhīm's elephants and those of his amirs were said to be about 1000. In his hands was the treasure of two forbears. In Hindustān, when work such as this has to be done, it is customary to pay out money to hired retainers who are known as bid hindī. If it had occurred to Ibrāhīm to do this, he might have had another lak or two of troops. God brought it right; Ibrāhīm could neither content his braves, nor share out his treasure. How should he content his braves when he was ruled by avarice and had a craving insatiable to pile coin on coin? He was an unproved brave; he provided nothing for his military operations, he perfected nothing, nor stand, nor move, nor fight.

In the interval at Pānīpat during which the army was preparing defence on our every side with cart, ditch and branch, Darwish-i-muhammad Sarban had once said to me, "With such precautions taken, how is it possible for him to come?" Said I, "Are you likening him to the Auzbēg Khāns and Śultāns? In what of movement under arms or of planned operations is he to be compared with them?" God brought it right! Things fell out just as I said.

#### Preliminary encounter

During the 7 or 8 days we lay in Pānīpat, our men used to go, a few together, close up to Ibrāhīm's camp, rain arrows down on his massed troops, cut off and bring in heads. Still he made no move; nor did his troops sally out. At length, we acted on the advice of several Hindustānī well-wishers and sent out 4 or 5000 men to deliver a night attack on his camp, the leaders of it being Mahdī Khwājā, Muhammad Sl. Mirzā, Ādil Sultān, Khusrau, Shāh Mīr Husain,

Sl. Junaid Barlās, Abdu'l-' aziā, the Master of the Horse, Muh. Alī Jang-jang, Qutluq-qadam, Treasurer Walī, Khalīfā's Muhibb-i-'alī, Paymaster Muhammad, Jān Bēg and Qarā-quzī. It being dark, they were not able to act together well, and, having scattered, could effect nothing on arrival. They stayed near Ibrāhīm's camp till dawn, then the nagarets sounded and troops of his came out in array with elephants. Though our men did not do their work, they got off safe and sound; not a man of them was killed, though they were in touch with such a mass of foes. One arrow pierced Muh. 'Alī Jang-jang's leg; though the wound was not mortal, he was good-for-nothing on the day of battle.

On hearing of this affair, I sent off Humāyūn and his troops to go 2 or 3 miles to meet them, and followed him myself with the rest of the army in battle. The party of the night-attack joined him and came back with him. The enemy making no further advance, we returned to camp and dismounted. That night a false alarm fell on the camp; for some 20 minutes (one  $gar\bar{\imath}$ ) there were uproar and call-to-arms; the disturbance died down after a time.

#### Battle of Panipat

(April 20th). On Friday, the 8th of Rajab, news came, when it was light enough to distinguish one thing from another  $(f\bar{a}rz-waqt\bar{\imath})$  that the enemy was advancing in fighting-array. We at once put on mail, armed and mounted. Our right was Humāyūn, Khwājā Kalān, Sultān Muhammad Duldai, Hindū Bēg, Treasurer Walī and Pīr-qulī Sistānī; our left was Muhammad Sl. Mirzā, Mahdī Khwājā, Ādil Sultān, Shāh Mīr Husain, Sl. Junaid Barlas Qutlug-gadam, Jān Beg. Paymaster Muhammad, and Shah Husain (of) Yaragi Mughul Ghanchi (?) The right hand of the centre was Chin-timur Sultan. Sulaiman Mirza, Muhammadī Kukuldāsh, Shāh Mansūr Barlās, Yunas-i-alī, Darwish-i-muhammad Sarban and 'Abdu'l-lah, the librarian. The left of the centre was Khwājā Mīr-i-mīran, Secretary Ahmadī, Khalīfā Tardi Beg (brother) Khalīfā's Muhibb-i-'alī and of Oui Bēg, Mirzā Bēg Tarkhān. advance was Khusrau Kukuldāsh and Muh. Alī Jang-jang. 'Abdu'l-'azīz, the Master of the Horse, was posted as the reserve. For the turning-party (tulghumā) at the point of the right wing, we fixed on Red Wali and Malik Qasim (brother of Baba Qashqa, with their Mughuls; for the turning-party at the point of the left wing, we arrayed Qara-quzī, Abu'l-muhammad, the lance-player, Shaikh Alī, Mahndī (?) and Tingrī-birdī Bashāghī (?) Mughul; these two parties, directly the enemy got near, were to turn his rear, one from the right, the other from the left.

When the dark mass of the enemy first came in sight, he seemed to incline towards our right; Abdu'l-'azīz, who was the right-reserve, was sent therefore to reinforce the right. From the time that Sl. Ibrāhīm's blackness first appeared, he moved swiftly, straight for us, without a check, until he saw the dark mass of our men, when his pulled up and, observing our formation and array, made as

if asking, "To stand or not? To advance or not?" They could not stand; nor could they make their former swift advance.

Our orders were for the turning-parties to wheel from right and left to the enemy's rear, to discharge arrows and to engage in the fight; and for the right and left (wings) to advance and join battle with him. The turning-parties wheeled round and began to rain arrows down. Mahdī Khwajā was the first of the left to enage; he was faced by a troop having an elephant with it; his men's flights of arrows forced it to retire. To reinforce the left I sent Secretary Ahmadī and also Qui Beg's Tārdī Beg and Khalīfā's Muhibb-i-alī. On the right also there was some stubborn fighting. Orders were given for Muhammadī Kukuldāsh, Shāh Mansūr Barlās, Yunas-i-alī and 'Abdul-lah to engage those facing them in front of the centre. From that same position Ustad Ali-quli made good discharge of firing shots; Mustafa, the commissary for his part, made excellent discharge of zarb-zan shots from the left hand of the centre. Our right, left, centre and turning-parties having surrounded the enemy, rained arrows down on him and fought ungrudgingly. He made one or two small charges on our right and left but under our men's arrows, fell back on his own centre. His right and left hands (qul) were massed in such a crowd that they could neither move forward against us nor force a way for flight.

When the incitement to battle had come, the Sun was spear-high; till midday fighting had been in full force; noon passed, the foe was crushed in defeat, our friends rejoicing and gay. By God's mercy and kindness, this difficult affair was made easy for us! In one half-day, that armed mass was laid upon the earth. Five or six thousand men were killed in one place close to Ibrāhīm. Our estimate of the other dead, lying all over the field, was 15 to 16,000, but it came to be known, later in Agra from the statements of Hindustānīs, that 40 or 50,000 may have died in that battle.

The foe defeated, pursuit and unhorsing of fugitives began. Our men brought in  $am\bar{\imath}rs$  of all ranks and the chiefs they captured;  $mah\bar{a}uts$  made offering of herd after herd of elephants.

Ibrāhīm was thought to have fled; therefore, while pursuing the enemy, we told off Qismatai Mirzā, Bābā chuhrā and Bujkā of the  $kh\bar{a}sa-tab\bar{\imath}n$  to lead swift pursuit to Agra and try to take him. We passed through his camp, looked into his own enclosure (saracha) and quarters, and dismounted on the bank of standing-water (qara-su).

It was the Afternoon Prayer when Khalīfā's younger brother-in-law Tāhir Tibrī who had found Ibrāhīm's body in a heap of dead, brought in his head.

# Detachments sent to occupy Dihli and Agra

On that very same day we appointed Humayun Mirza to ride fast and light to Agra with Khwaja Kalan, Muhammadi, Shah Mansur Barlas, Yunas-i-ali,

Abdul-lāh and Treasurer Walī, to get the place into their hands and to mount, guard over the treasure. We fixed on Mahdī Khwājā, with Muhammad Sl. Mirzā, Ādil Sultān, Sl. Junaid Barlās and Qutluq-qadam to leave their baggage, make sudden incursion on Delhi, and keep watch on the treasuries.

(April 21st). We marched on next day and when we had gone 2 miles, dismounted, for the sake of the horses, on the bank of the Jun (Jumnā).

(April 24th). On Tuesday, Rajab 12th), after we had halted on two nights and had made the circuit of Shaikh Nizāmud-dīn Auliyā's tomb we dismounted on the bank of the Jun over against Dihli. That same night, being Wednesday-eve, we made an excursion into the fort of Dihli and there spent the night.

(April 25th). Next day (Wednesday, Rajab 13th), I made the circuit of Khwājā Qutbud-dīn's tomb and visited the tombs and residences of Sl. Ghiyāsud-dīn Balban and Sl. Alāud-dīn Khiljī, his Minār, and the Hauz-shamsī, Hauz-i-khās and the tombs and gardens of Sl. Buhlūl and Sl. Sikandar (Lūdī). Having done this, we dismounted at the camp, went on a boat, and there araq was drunk.

We bestowed the Military Collectorate (shiqdarlighī) of Dihli on Red Wali, made Dost Diwān in the Dihli district, sealed the treasuries, and made them over to their charge.

(April 26th). On Thursday we dismounted on the bank of the Jun, over against Tughluqābād.

## The Khutba read for Babur in Dihli

(April 27th). On Friday (Rajab 15th), while we remained on the same ground, Maulānā Mahmūd and Shaikh Zain went with a few others into Dihli, for the Congregational Prayer, read the  $khutb\bar{a}$  in my name, distributed a portion of money to the poor and needy, and returned to camp.

(April 28th). Leaving that ground on Saturday (Rajab 16th), we advanced march by march for Agra. I made an excursion to Tughluqābād and rejoined the camp.

(May 4th). On Friday (Rajab 22nd), we dismounted at the mansion (manzil) of Sulaimān Farmulī in a suburb of Agra, but as the place was far from the fort, moved on the following day to Jalāl Khān Jighat's house.

On Humāyūn's arrival at Agra, ahead of us, the garrison had made excuses and false pretexts (about surrender). He and his noticing the want of discipline there was, said, "The long hand may be laid on the Treasury"; and so sat down to watch the roads out of Agra till we should come.

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#### The great diamond

In Sultān Ibrāhīm's defeat the Rāja of Guāliar Bikramājit, the Hindu, had gone to hell.

Bikramājit's children and family were in Agra at the time of Ibrāhīm's defeat.

When Humāyūn reached Agra, they must have been planning to flee, but his postings of men (to watch the roads) prevented this and guard was kept over them. Humāyūn himself did not let them go (barghali quimas). They made him a voluntary offering of a mass of jewels and valuables amongst which was the famous diamond which Alāud-dīn must have brought. Its reputation is that every appraiser has estimated its value at two and a haif days' food for the whole world. Apparently it weighs 8 misqals. Humāyūn offered it to me when I arrived at Agra; I just gave it him back.

#### Ibrahim's mother and entourage

Amongst men of mark who were in the fort, there were Malik Dād Karanī, Milli Surduk and Firūz Khān Miwatī. They, being convicted of false dealing, were ordered out for capital punishment. Several persons interceded for Malik Dād Karanī and four or five days passed in comings and goings before the matter was arranged. We then shewed them (all?) kindness and favour in agreement with the petition made for them, and we restored them all their goods. A parganā worth 7 lāks was bestowed on Ibrāhīm's mother; parganās were given also to these bégs of his. She was sent out of the fort with her old servants and given encampingground (yurt), two miles below Agra.

(May 10th, 1526 A.D.) I entered Agra at the Afternoon Prayer of Thursday (Rajab 28th) and dismounted at the mansion (manzil) of Sl. Ibrāhīm.

#### APPENDIX II

# On arsenal and matchlocks

(From the  $\bar{A}in-i-Akbar\bar{a}$ )  $\bar{A}in. 35$ 

#### The arsenal

The order of the household, the efficiency of the army, and the welfare of the country, are intimately connected with the state of this department; hence His Majesty gives it every attention, and looks scrutinizingly into its working order. He introduces all sorts of new methods, and studies their applicability to practical purposes. Thus a plated armour was brought before His Majesty, and set up as a target; but no bullet was so powerful as to make an impression on it. A sufficient number of such armour has been made so as to supply whole armies. His Majesty also looks into the prices of such as are sold in the  $b\bar{a}z\bar{a}rs$ .

All weapons for the use of His Majesty have names, and a proper rank is assigned to them. Thus there are thirty swords ( $kh\bar{a}sa$  swords), one of which is daily sent to His Majesty's sleeping apartments. The old one is returned, and handed over to the servants outside the harem, who keep it till its turn comes again. Forty other swords are kept in readiness; they are called kotal swords. When the number of  $kh\bar{a}sa$  swords (in consequence of presents, etc., has decreased to twelve, they supply new ones from the kotal swords. There are also twelve  $yakband\bar{a}$  (?), the turn of every one of which recurs after one week. Of  $jamadh\bar{a}rs$  and  $khapw\bar{a}s$ , there are forty of each. Their turn recurs every week; and each has thirty kotals, from which deficiencies are supplied as before. Besides, eight knives, twenty spears and  $barchh\bar{a}s$  are required monthly. Of eighty-six  $mashhad\bar{a}$  bows, bhadayan bows, and twenty-four others, are returned monthly...... In the same manner a rank is assigned to each.

Whenever His Majesty rides out, or at the time of the  $B\bar{a}r$ -i- $\bar{A}m$  or Levee, the sons of the  $am\bar{\imath}rs$ , and other  $mansabd\bar{a}rs$  and  $ahad\bar{\imath}s$ , carry the qur in their hands and on their shoulders i.e., every four of them carry four quivers, four

On arsenal and matchlocks

bows, four swords, four shields; and besides, they take up lances, spears, axes, pointed axes,  $piy\bar{a}z\bar{\imath}$ , war-clubs, sticks, pellet bows, pestles and a footstool, are properly arranged. Several  $qat\bar{a}r$  of camels and mules are loaded with weapons and kept in readiness; and on travels they use Bactrain camels, etc., for that purpose. At court receptions, the  $am\bar{\imath}rs$  and other people stand opposite the qur ready for any service; and on the march they follow behind it, with the exception of a few who are near His Majesty. Elephants in full trappings, camels, carriages,  $naqq\bar{a}r\bar{a}s$ , flags,  $kawk\bar{a}bas$ , and other Imperial insignia, accompany the qur while eager mace-bearers superintend the march, assisted by the  $m\bar{\imath}rbakbsh\bar{\imath}s$ . In hunting expeditions several swift runners are in attendance, and a few others are in charge of harnesses.

In order to shorten the trouble of making references, I shall enumerate the weapons now in use in form of a table, and give pictures of some of them:

1.	Swords (slightly bent)	½ R. to 15 muhurs
2.	Khāndā (straight swords)	1 to 10 R
3.	Gupti-asā (a sword in a walking stick)	2 to 20 R.
4.	Jamdhar (a broad dagger)	$\frac{1}{4}$ R to $2\frac{1}{2}$ M.
5.	Khanjar	½ to 5 R
6.	Khapwā	$\frac{1}{2}$ R to $1\frac{1}{2}$ M.
7.	Jam khāk	$\frac{1}{2}$ R to $1\frac{1}{2}$ M.
8.	$B\bar{a}k$	$\frac{1}{2}$ R to 1 M.
9.	Jhanbwā	½ R to 1 M.
10.	Kaṭāra	½ R to 1 M.
11.	Narsīnk moth	½ R to 2 M.
12.	Kamān (bows)	½ R to 3 M.
	Takhsh-kamān	1 to 4 R
14.	Nāwak	½ R to 1 M.
15.	Arrows (per bundle)	1 R to 30 R.
16.	Quivers	1 R to 2 M.
17.	Dadī	1 to 5 R.
18.	Tīrbardār (arrow-puller)	$\frac{1}{2}$ to $2\frac{1}{2}$ d.
	Paikānkash (arrow-drawer)	½ to 3 R.
20.		13 R. to 6 M.
21.		3 R. to 2 M.
22.		1 to 1 R.
23.		1 to 1 R.
24.		10 D. to 3/4 R.
	Gurz (war-club)	1 to 5 R.
	Shashpar (war-club)	R. to 3 M.
	- Charles (Max Carry	

# Mughal Weapons in the Bābur-nāmā

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27. Kestan (?)

28. Tabar (war-axe)

29. Piyāzī (a club)

30. Zaghnol (pointed axe)

31. Chakar-basolā

32. Tabar-zaghnol

33. Tarangāla

34. Kard (knife)

35. Gupti-kard

36. Qamchī kard

37. Chāqū (clasp knife)

38. Kamān-i-gurohā (bullet bow)

39. Kamthā

40. Tufak-i-dahan (a tube)

41. Pushtkhār

42. Shastawez

43. Girihkusha

44. Khār-i-māhī

45. Gobhan (a sling)

46. Gajbāg

47. Sipur (a shield)

48. Dhāl

49. Khérā

50. Pahrī

51. Udana

52. Dubulghā

53. Khoghī

54. Zirih kulah

55. Ghughuwā

56. Jaibāh

57. Zirih

58. Bagtar

59. Joshan

60. Chār-āinā

61. Kothī

62. Sādigī

63. Angirkhā

64. Bhanju

1 to 3 R.

1 R. to 2 M,

½ to 5 R.

½ R.o 1 M.

1 to 6 R.

1 to 4 R.

1 to 2 R.

2 d. to 1 M.

3 R. to  $1\frac{1}{2}$  M.

1 to 3½ R.

2 d. to 1 R.

2 d. to 1 R.

5 d. to 3 R.

10 d. to  $\frac{1}{2}$  R.

2 d. to 2 R.

2 d. to 1 R.

1 d. to 1 R.

1 to 5 R.

11 to 1 R.

1 to 5 R.

1 to 50 R.

& R to 4 M.

1 R. to 4 M.

1 R to 1 M.

1 R to 5 R.

1 R. to 31 M.

1 to 4 R.

1 to 5 R.

1 R to 2 M.

20 R to 30 M.

 $1_{\frac{3}{4}}$  R. to 100 M.

4 R. to 12 M.

4 R to 9 M.

2 R to 7 M.

5 R to 8 M.

3 R to 8 M.

1½ R to 5 M.

3 R to 2 M.

65. Chihrah zirih-i-ahanī	$1\frac{1}{2}$ R to 1 M.
66. Salhgaba	5 R to 8 M.
67. Chihilgad	5 to 25 R.
68. Dastwānā	$1\frac{1}{2}$ R to 2 M.
69. <i>Rāk</i>	1 R to 10 M.
70. Kantha-śobhā	1 to 10 R.
71. Moza-yi ahanī	½ to 10 R.
72. Kājem	50 to 300 R.
73. Artak (the quilt)-i-kājem	4 R to 7 M.
74. Qashqā	1 R to $2\frac{1}{2}$ M.
75. Gardanī	1 R to 1 M.
76. Matchlocks	$\frac{1}{2}$ R to 1 M.
77. Bān (rockets)	2½ to 4 R.

Ain 36

#### On guns

Guns are wonderful locks for protecting the august edifice of the state and befitting keys for the door of conquest. With the exception of Turkey, there is perhaps no country which in its guns has more means of securing the government than this. There are nowadays guns made of such a size that the ball weighs 12 mans; several elephants and a thousand cattle are required to transport one. His Majesty looks upon the care bestowed on the efficiency of this branch as one of higher objects of a king and, therefore, devotes to it much of his time. Daroghās and clever clerks are appointed to keep the whole in proper working order.

His Majesty has made several inventions which have astonished the whole world. He made a gun which, on marches, can easily be taken to pieces, and properly put together again when required. By another invention, His Majesty joins seventeen guns in such a manner as to be able to fire them simultaneously with one match. Again, he made another kind of gun, which can easily be carried by a single elephant; such guns have name gajnāls. Guns which a single man may carry are called narnāls.

The imperial guns are carefully distributed over the whole kingdom, and each  $S\bar{u}b\bar{a}$  has that kind which is fit for it. For the siege of fortresses and for naval engagements, His Majesty has separate guns made, which accompany his victorious armies on their marches. It is impossible to count every gun; besides clever workmen make continually new ones, especially  $gajn\bar{a}ls$  and  $narn\bar{a}ls$ .

Amīrs and ahadīs are on staff employ in this branch. The pay of the foot varies from 100 to 400 d.

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#### Ain 37

## On matchlocks, etc.

These are in particular favour with His Majesty, who stands unrivalled in their manufacture, and as a marksman. Matchlocks are now made so strong that they do not burst, though let off when filled to the top. Formerly they could not fill them to more than a quarter. Besides, they made them with the hammer and the anvil by flattening pieces of iron, and joining the flattened edge of both sides. Some left them, from foresight, on one edge open; but numerous accidents were the result, especially in the former kind. His Majesty has invented an excellent method of construction. They flatten iron, and twist it round obliquely in form of a roll, so that the folds get longer at every twist; they then join the folds, not edge to edge, but so as to allow them to lie one over the other, and heat them gradually in the fire. They also take cylindrical pieces of iron, and pierce them when hot with an iron pin. Three or four of such pieces make one gun; or, in the case of smaller ones, two. Guns are often made of a length of two yards; those of a smaller kind are one and a quarter yards long, and go by the name of damanaka. The gunstocks are differently made. From the practical knowledge of His Majesty, guns are now made in such a mannar that they can be fired off, without a match, by a slight movement of the cock. Bullet are also made so as cut like a sword. Through the assistance of the inventive genius of His Majesty there are now many masters to be found among gunmakers e. g., Ustād Kabīr and Husayn.

Iron, when heated, loses about one-half of its volume. When a barrel is completed lengthwise, before the transverse bottom-piece is fixed to it, they engrave on it the quantity of its iron and the length, both being expressed in numerals. A barrel thus far finished, is called daul. In this imperfect state they are sent to His Majesty, and delivered, in proper order, at the harem, to which place they are also brought for . . . At the same time, the weight of the ball is fixed, and the order is given for the transverse section of the matchlock. For long guns the weight of a ball does not exceed twenty-five tanks and for smaller ones fifteen. But balls of the former weight no one but His Majesty would dare to fire. When the barrels are polished, they are again sent to the harem, and preserved in proper order. They are afterwards taken out, and closed, by the order of His Majesty, with a transverse bottom-piece. Having been put to an old stock, they are filled to one-third of the barrel with powder, and fired off. If no tarāwish takes place and the trial is satisfactory, they take the barrels again to His Majesty, who gives the order to finish the mouth-piece of the barrel. After this the gun is again placed on the stock, and subjected to a trial. If the ball issues in a crooked line, the barrel is heated, and straightened by means of a rod introduced into it, and, in the presence of His Majesty, handed over to a filer. He adorns the outside of the barrel in various ways, according to orders, when it is taken to the harem. The wood and the shape of the stock are then determined on. Several things are marked on every matchlock, viz., the weight of the raw and the manufactured iron, the former marks being now removed; the place where the iron is taken from; the workman; the place where the gun is made; the date; its number. Sometimes without reference to a proper order, one of the unfinished barrels is selected and completed at His Majesty's command. It is then entered in another place; the transverse bottom-piece is fixed; and the order is given to make the cock, the ramrod, the pargaz, etc. As soon as all these things have been completed, a new trial is ordered; and when it succeeds, they send in the gun, and deliver it a third time at the harem. In this state the gun is called  $s\bar{a}d\bar{a}$  (plain). Five bullets are sent along with it. His Majesty, after trying it in the manner above described, returns it with the fifth bullet. The order for the colour of the barrel and the stock is now given; one of the nine kinds of colour is selected for the stock. Guns also dffer in the quality of inlaid gold and enamel; the colour of the barrel is uniform. A gun thus far completed is called rangin (coloured). It is now, as before, handed over together with five bullets; His Majesty makes four trials, and returns it with the last ball. When ten of such guns are ready, His Majesty orders to inlay the mouth of the barrel and the butt-end with gold. They are then again sent for trial into the harem, and whenever ten are quite complete they are handed over to the slaves.

## Ain 38

# The manner of cleaning guns

Formerly a strong man had to work a long time with iron instruments in order to clean matchlocks. His Majesty, from his practical knowledge, has invented a wheel, by the motion of which sixteen barrels may be cleaned in a very short time. The wheel is turned by a cow.

# Ain 39

# The ranks of the guns

The Imperial arsenal contains manufactured, purchased and presented guns. Each of them is either long, or short; and these are again. subdivided into  $s\bar{a}d\bar{a}$ (plain), rangin (coloured), and koftkār (hammered) guns. His Majesty has selected out of several thousand guns, one hundred and five as khāsa, i.e., for his special use. First twelve in honour of the twelve months; each of them is brought back in its turn after eleven months. Secondly, thirty for every week; after every seven days one goes out; and onother is brought. Thirdly, thirty-two for the solar days; one for every day. Fourthly, thirty-one kotals. Sometimes there are only twenty-eight. Whenever some of the former guns have been given away, kotals are brought, to supply their places. The orders of precedence is as follows: the guns for the month; the week; days; kotals; plain; coloured, koftkār, not handed over to the slaves; koftkār, handed over to the slaves; long ones, selected from peshkash presents, or from such as were bought; damanaka, selected from peshkash, or from bought one; such as have been chosen from selections of both. The one hundred and five khāsa guns are divided into seven parts; every fifteen form a kishk, or guard, and are always kept ready by the slaves. On Sundays two are taken from the first; four from the second; five from the third; four from the fourth. This order is also followed on Mondays, Tuesdays and Wednesdays. On Thursdays, two are again taken from the first, and four from the second; four from the third; five from the fourth. On Fridays, one is taken from the fourth. So also for Saturdays. In order to supply the places of such khāsa guns as have been given away, five other classes have been determined on: half kotals, fourteen; quarter kotals, seven; one-eight kotals, four; one-sixteenth kotals, two; one-thirty-second kotals, one. When kotal guns are given away, they bring half kotals, similarly, the place of a gun, when given away, is taken by the next; and the place of the last is supplied by one selected from such as have been bought.

One hundred and one guns are continually kept in the harem. Their order is as follows. On the first day of every solar month eleven guns are handed over to the servants of the harem, one of each of the guns for the months, the weeks, the days, the kotals, the plain ones, the  $koftk\bar{a}r$  not in charge of the slaves, the  $koftk\bar{a}r$  in their charge, the selected long ones, the selected damanakas, the chosen ones of the selected ones. On the second day only the guns of the month (i.e., ten) are handed over in the same order. For ten days an equal number is sent to the harem.

His Majesty practises often. When he has tried each gun, he commences from the beginning; and when each gun has been used four times it is sent away and replaced by a new one of each kind. If guns have been left unused at the beginning of a new month, they are placed last, and the guns for the current month are put first.

An order has also been given to the writers to write down the game killed by His Majesty with the particulars of the guns used. Thus it was found that with been killed. This gun is the first of His Majesty' private guns, and is used during Farwardin month of the present era.

On arsenal and matchlock

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#### Ain 40

# On the pay of the matchlock bearers

The pay of a *Mīrdaha* is of four grades, 300 *dāms*, 280 d., 270 d., 260 d. The pay of the others is of five grades. Each grade is again subdivided into three classes. First grade, 250 d., 240 d., 230 d., Second grade, 220 d., 210 d., 200 d. Third grade, 190 d., 150 d., 180 d., 170 d., Fourth grade, 160 d., 140 d. Fifth grade, 130 d., 110 d.

# APPENDIX III On gunpowder

The gunpowder, an inflammable mixture of (i) saltpetre (also spelt as saltpeter; this is potassium nitrate, nitre, white crystalline salty substance), (ii) sulphur (called gandhanka in Hindi, is a pale-yellow non-metallic element occurring in crystalline and amorphous modifications, burning with blue flame and stiffling smell) and (iii) charcoal (called tarkol in Hindi, is a black porous residue of partly burnt wood, bones, etc.) has been known from the very early times and was probably discovered in India, China and several other countries independently. Gunpowder as an explosive for the projection of missiles was almost certainly discovered in Europe early in the 13th century. Lt. Col. H.W. Hime studied the subject exhaustinely and states that similar mixtures of same ingredients were used for rockets and incendiary bombs before this, but none of these mixtures were powerful enough or rapid enough in their action to propel a missile. It was not until means were discovered for purifying nitre that it was possible to make an explosive powder. The first powder was a coarse meal and was called 'corning' (or forming grains of the powder). It was discovered early in the 12th century. Later powder of considerable strength was produced. Initially this 'corned powder' was used only in small arms as the early cannons were not strong enough to stand its explosion. During the second half of the 15th century it was realised that the strength of the powder increased with the size of the grains and it became the custom to vary the grains to suit the purpose for which the powder was to be used. A garser grained powder gives nearly the same muzzle velocity with much less pressure. From about 1250 to 1450 A.D. in Europe powders dffered only in composition all being simple mixture of the ingredients not grained. From 1450 to 1700 A.D. powders differed in both composition and grain. Since 1700 A.D. the composition of all gunpowders is substantially the same, but they differ greatly in grain size.

[Based on Henry W.L. Hime, The Origin of Artillery (London, 1915), p. 149]

#### APPENDIX IV

# Fire-arms<sup>1</sup> in India before the advent of Babur

The word  $\bar{a}gney\bar{a}stra$  mentioned in the  $R\bar{a}m\bar{a}yana^2$ ,  $Mah\bar{a}bh\bar{a}rat\bar{a}^3$  and other Sanskrit classics<sup>4</sup> have created a great controversy and the scholars are uncertain regarding the nature of these weapons of offence. The staunch supporters of all-science-from-India consider this word as a synonym of fire-arm and firmly believe that all kinds of rockets, guns, cannons and bombs were known to and used by the ancient Aryans. On the contrary those influenced by the Western ideology dismiss it as a poetic fancy. The truth, however, lies somewhere in between.

#### Definition

The 'fire-arms' do not include any weapons which are connected with fire. The term is confined to the weapons which are discharged by the force of fire. A gun which propels large shells by means of an explosion of burning gunpowder is a fire-arm but an arrow tipped with some burning substance and flung at the enemy as a weapon cannot be included into the category of fire-arm. Thus the essential feature of a fire-arm is not that it burns but that it is discharged by an explosion.

# So-called guns of ancient India

The surmi of the Rigveda<sup>6</sup> has been compared with a gun by G. Oppert.<sup>7</sup> The word is also mentioned in the Yajurveda<sup>8</sup> where it is described to be a tube with handle which shone like fire. This description is not sufficient to prove the existence of gunpowder during the period of the Rigveda (2nd millennium B.C.) when the fire itself was produced from the friction of dry wood.

The various kinds of agnibāṇas used in the Rāma-Rāvaṇa<sup>9</sup> and Kaurava – Pāṇdava wars<sup>10</sup> were fire-arrows – the heads of which had a coating of inflammable

composition containing lead and tin, the whole being packed and tied with a fibre of sana (Crotolaria Juncea). The composition was ignited before the arrow was shot.11

Shataghni12 (literally "a hundred killer") has been differently interpreted by different scholars. Halhead<sup>13</sup> has claimed that the ancient Indian riṣīs (sages) had specialised in several sciences and had used gunpowder. He has supposed shataghnī to be a 'cannon' while H.H. Wilson<sup>14</sup> and Gustav Oppert<sup>15</sup> identify it with a 'rocket'. E.W. Hopkins<sup>16</sup> has defined it to be a weapon of siege-craft. In ancient India there were probably two kinds of shataghnis: one was like a club fitted with iron spikes, four cubits in length, and used as a hand weapon or even hurled like a projectile. The second variety, being very heavy and requiring several men for operation, was placed on the fort walls.<sup>17</sup> In the Mahābhārata<sup>18</sup> it is clearly stated that a king should safeguard his city with various yantras including shataghnis 19 which should be installed on the parapets of the fort. 20

The two terms ayah-kanapa and tula-guda of the Mahābhārata have been translated by its commentator Nilakantha as 'guns'. The names occur in the Epic only once when Krishna and Arjuna were guarding the Khandava forest at the time it was set on fire. They had these two weapons on their person. Since there is no reference of fire or smoke or explosion, these two may better be considered as the variants of spear or some kind of dart since in the Dashakumāracharita<sup>21</sup>, a Sanskrit classic of later date, kanapa denotes a spear made entirely of iron and in the Matsya Purāna<sup>22</sup> ayo-guḍa is referred to in the sense of a ball projected by a machine consisting of a lever.

Bhusundī of the epics and the Purānas was a sling for throwing stones; it is nowhere associated with explosion.

Ctesias says that in 326 B.C. the Indians manufactured an oil on the banks of the river Indus, enclosed in earthern jars, and that on being shot out against woodwork, a flame was kindled, which could only be extinguished by a quantity of mud thickly laid on it. It was manufactured solely for the king and no one else was allowed to have it in his possession.23 Aelian, quoting Ctesias, improves upon and says that the kings of the India took cities by means of these fire vessels and no battering arm or any other poliorcetic machine could resist it. Earthern jars were filled with the oil and thrown upon city gates, the jars being fractured, the oil spread and was inextinguishable and insatiable burning both arms and fighting men. Philostrates speaking of the same says that the oil was procured from a river worm (?) probably an alligator.24 It is recorded that Alexander, writing to Aristotle, has mentioned "flaming thunderbolts" in India.

Kautilya in his Arthashāstra has given recipes for fire composition as also for poisonous smoke. The agni-dhāraṇa, says Kautilya, "consists of small balls made of the dung of the ass, camel, goat and sheep mixed with the wood of sarala (pims longi-folio), devadāru (deodar), cut into splinters, the leaf of putitrņa (leman grass), guggula śrīvestaka (turpentine) and lac."25 All these ingredients are resinous and highly inflammable, the dung serving as matrix. The other arms mentioned by him such as agni-yoga yantras, and vishvāsghātī were like fire balls containing easily fusible metals. These could be used like grenades which burst and the fragments of metal were scattered in all directions. All these can be included within the weapons of artillery or the ones-used in siegecraft but not in the category of fire-arms. These burning arrows or fire balls were propelled by the yantras, mahāyantras, mahāsārayantras or rathamāsalas which were different kinds of machines discharging darts, stones, etc.,—the heavier ones being installed on the ramparts while the portable yantras<sup>27</sup> were carried on wheel to the battle-field.

A full description of guns and cannons together with the method of preparation of gunpowder is given in the Nītiprakāshikā28 originally written by Shukrāchārya in the sixth century A.D. but the work avilable today is full of interpolations and the probable date of the extant edition can be ascertained round about 11th century as proposed by the Jogesh Chandra Ray29 or even much later. 30 It states, "The  $n\bar{a}lik\bar{a}$  is of two kinds, large and small. The small ones are 45 inches long having a stock of tough wood and a barrel of bamboo with a bore of three-fourth of an inch" The rest of the description agrees with muzzle-loading gun of the medieval period. It further narrates that the small nālikās were used by the infantry and the cavalry-the larger nālikās had no wooden stocks, were made of steel and carried on wheels32. About the gunpowder the same text says, "it is called agni-chūrna and is composed of 4 to 6 parts of suvarchilavana (saltpetre), 1 part of sulphur and 1 part of charcoal of arka (Calatropis gigantea), snūhi (Euphorbia neriffia) and other trees<sup>33</sup> burnt in a pit so as to ecclude air. The ingredients are to be purified separately, ground to fine powder and then mixed. The mixture is then soaked in the sap of arka and lasuna (garlic), dried in the sun and reduced to coarse powder like granulated sugar. There are many kinds of agni-chūrna known to the experts, and they are composed of varied proportions of charcoal, sulphur, saltpetre, realgar, orpiment, calx of lead, cinabar, iron filings, zinc dust, shellac, blue bitriol, resin of pines, etc".34

Manu prohibits the use of fire-arrows. "The Magistrate shall not make war with any deceitful machine, or with poisoned weapons, or with cannon and guns or any kind of fire-arms" Halhead, commenting on this passage, says "the reader will probably from hence renew the suspicion which has long been deemed absurd, that Alexander the Great, did absolutely meet with some weapons of that kind in India, as a passage in Quintus Curtius seems to ascertain. Gunpowder has been known in China, as well as Hindustān, far beyond all periods of investigation. The word 'fire-arms' is literally the Sanskrit agniāster, a weapon of fire; they describe the first species of it to have been a kind of dart or arrow tipped with fire, and discharged upon the enemy from a bamboo. Among several extraordinary properties of this weapon, one was that after it had taken its flight, it divided into several separate streams of flame, each of which took effect and

which when once kindled, could not be extinguished; but this kind of agniāster is now lost". 36

The fire-arms are referred to in some other ancient Sanskrit texts<sup>37</sup> as well. All the gods and goddesses used to keep such mythical weapons which could annihilate the whole army of the adversary. The exact nature of these weapons is nowhere disclosed. No doubt their powers have been exaggerated and in many instances poetic fancy has given rise to such weapons which never existed. Some scholars<sup>38</sup> believe that since the art of gunpowder was both secret and secred the reason of these exaggerations might have been to coceal the real element of truth underlying them.

Most of the foreign travellers and many important texts on Hindu polity such as Harshacharita of Bāṇa, Nītivākyāmrita of Somadēva, Samrāngaṇasūtradhāra, Yuktikalpataru of Bhoja, etc., do not make any mention of gunpowder and firearms. Similarly, the ancient Indian coins, inscriptions, sculptures and wall paintings are completely silent about them. None of the archaeological excavations has yielded any evidence to prove the existence of fire-arms in ancient India.

India is a land of fire works. No festivity is complete without them. In reality reference to "flaming substances" should be taken as use of weapons used with the help of fire (and not fire-arms) in the battles, a feature which was very common even in the Vedi times.

#### Fire-arms in Medieval India

Muhammad-bin Qāsim, the first Muslim invader, an Arab, captured Daibal in Sind (now in Pakistan) in 711 A.D. with the help of  $manjaniks^{39}$  which required 500 men to operate it. These  $manjaniks^{40}$  Muhammad-bin Qāsim had brought with him. Shortly after the capture of Alor, the Arabs had used  $napth\bar{a}^{42}$  or flaming arrows and other firey projectiles,  $(\bar{a}tish-b\bar{a}z\bar{\imath})^{4}$  This is the first account of the use of incendiary preparation by the Arabs.

Three hundred years later Mahmūd Ghaznī attacked the combined Hindū forces under the command of  $\bar{A}$ nandpāl in 1008 A.D. and used  $napth\bar{a}$  balls<sup>46</sup> which created havoc since the elephant of  $\bar{A}$ nandpāl became unruly and began to trample friends and foes alike.

Surprisingly a number of important treatises such as the  $T\bar{a}r\bar{\imath}kh$ -i- $Y\bar{a}min\bar{\imath}$ , the  $Jamiv\bar{a}t$   $Taw\bar{a}r\bar{\imath}kh$  of Rashiuddin, the  $T\bar{a}r\bar{\imath}kh$ -i- $Guzid\bar{a}$ , the Abul  $Fsd\bar{a}$ , the  $Tabak\bar{a}t$ -i- $N\bar{a}sir\bar{\imath}$ , the Rauzatu-s- $Saf\bar{a}$ , the  $T\bar{a}r\bar{\imath}kh$ -i- $Alf\bar{\imath}$  and the  $Tabak\bar{a}t$ - $\bar{\imath}$ - $Akbar\bar{\imath}$  which discuss the  $Anandp\bar{a}l$  affair with some detail do not make any mention of  $napth\bar{a}$  or top (connon).

In 1018 A.D. Mahmūd Ghaznī attacked the Jāts of Jude Hills and in a naval engagement near Multan, Mahmūd got 1400 boats constructed, each of which was epuipped with six iron spikes to prevent the enemy boarding and in each were

twenty-five archers and five  $napth\bar{a}$  men to attack and set fire to enemy flotilla. The Jats faced Mahmūd with 4000 boats but were defeated and several of their vessels were set to fire by the  $napth\bar{a}$ .<sup>47</sup>

It thus becomes clear that some kind of combustibles composed of  $napth\bar{a}$  were used. The words top and tufang seem to have been substituted later. It may be mentioned that the place where these two encounters of Mahmūd occurred abounds with  $napth\bar{a}$ .<sup>48</sup>

Captain J. Abbott in his report, quoted by Elliot and Dowson, states that at Jabbā, about 10 miles east of the river Indus, petroleum exudes from the rocks at the head of the Kathanadi. This petroleum contains napıhā.<sup>49</sup>

Throughout the Ghaznivide reign, including that of Mahmūd, the use of  $manjanik^{50}$  is nowhere mentioned. It is incidentally recorded that one Altun Tāsh received a manjanik when in India. Two hundred years later Muhammad Ghorī invaded India, a little before 1200 A.D., and still no Muslim writer has made reference to any incendiary preparations used by Muhammad Ghorī in his fight against the Rājputs. The Prithvīrāj  $R\bar{a}s\bar{o}^{51}$  composed by Chand Bardāī does contain several seferences<sup>52</sup> to the gunpowder or even cannon balls but these seem to be later interpolations.

According to the Jahān Kushā, Changiz Khān had used top in his siege of Khwārizm and the wild fire was used against him at Bāmiān.<sup>53</sup> Firishtā describes that in 1258 A.D. the wazīr (minister) of king of Delhi went to see the ambassador from Halāku (the grandson of Changiz Khān) and 3000 carriage of fire works had accompanied him-<sup>54</sup>

Reinaud and Fave in their joint venture on artillery<sup>55</sup> have reported that the Arabs were conversant with the mixture of charcoal, saltpetre and sulphur in different proportion in the 13th century A.D. They further opine that the Arabs had learnt the art from the Chinese in the 9th century and later improved upon it with their own experience.

It has been urged that the gunpowder and cannon were used during the reign of Iltutmish (1210-36 A.D.). This is based on the mention of khusk-anjir as a weapon of war in  $\overline{A}d\bar{a}b$ -ul-harab-was-shajaat, composed by Fakhr-i-Mudabbir at the beginning of the 13th century and dedicated to Sultān Iltutmish. The Farhang-i-Sharfnāmā-i Ahmed Munyani complied in 1459-74 A.D. (868-79 A.H.) informs us that khusk-anjir was "an instrument for throwing stones by the force of combustible substance (daruhā-i-ātishīn).

Ziyā-ud-dīn Baranī records that during the siege of Raṇathambhor in 1299 A.D. (699 A.H.) sang-i-maghribī<sup>57</sup> was widely used. Owing to this instrument one stone from the fort wall fell upon Nusrat Khān who was gravely injured. Baranī

has used manjanik separately. A.Z. Nadvi translates sang-i-maghribī 'a western stone or a stone cannon-ball'. 58

The Tabaqāt-i-Bahādur Shāhī though written in the 16th century, refers to cannons in the time of Alāuddin Khaljī (1296-1316 A.D.). One of these cannons, being very heavy, was drawn by 100 bullocks.

Amir Khusrau who died in 1315 A.D. makes no reference to anything like gunpowder.<sup>59</sup>

The translator of Firishta observes that in 1365 A.D. Muhammad Shāh Bahmanī I had 300 gun carriages with him. He records, "If any reliance is to be placed on Moolla Daud Bidury, the author of the Tohfutu-s-Salātīn, guns were used at this time by the Hindus, and in a subsequent passage it is remarked that the Muhammadans used them for the first time during the next campaign. But I am disposed to doubt the validity of both these statements. From the later passage it seems possible, indeed, that the Muhammadans might have procured guns from the West in 1368 A.D. because they are said to have been used eighteen years previously by Edward III at the battle of Cressy, though it is very improbable and Firishtā, in stating it to be the first time the Muhammadans employed them, also observes that Turks and Europeans, skilled in gunnery worked the artillery. That guns were in common use before the arrival of Portuguese in India in 1498, seems certain, from the mention made of them by Faria-e-Souza."51

Faria-e-Souza writes, "The Moors of Sumatra, Malacca and the Moluccoes (those princes bearing the tittle of Moolk, that is, the several kings of the Deccan) were well disciplined and much better stored with artillery that we that attacked them in 1506 A.D.<sup>62</sup>

Abdur Razzak was sent by Sultān Shāh as an ambassador to the Court of Devarāya II of Vijayanagar. The ambassador reached there in 1443 A.D. and noticed that in the  $Mah\bar{a}navam\bar{\imath}$  festival gunpowder and  $napth\bar{a}^{63}$  were used in some martial games.<sup>64</sup>

The rulers of Gujarat had cannons with them even before the arrival of the Portuguese. They were in contact with the Turks of Egypt and Arabia. In 1482 A.D. Mahmūd Shāh I of Gujarat sent a fleet embarked with gunners and musketeers from Kambay against the pirates of Bulsar. In 1884 A.D. the same monarch breached the walls of Chāmpānir with his cannons and fired shells at the palace of the Raja. 66

When Vasco de Gama entered Calicut in 1498 A.D., he was given a hearty welcome; amidst trumpets and saebuts "One of the Nāyars carried a Caliver which he fired off at intervals". 67 Two years after in 1500 A.D. the Zamorin cannonaded the Portuguese vessels. 68 In 1503 A.D. two Milanese lapidaries deserted the Portuguese and joined hands with the Zamorin for whom they

manufactured "Ordnance resembling that of the Portuguese" and were richly rewarded.

Vertomann records that the Portuguese who entered into the services of the native princes taught them the art of using cannons. Faria-e-Souza describes a Gujarat vessel which fired several guns at the Portuguese in 1500 A.D. The same author speaks of the Indians of Calicut using fire vessels in 1502 A.D. and of the Zamorin fleet carrying 380 guns in 1503 A.D. In 1511 A.D. the people of Malaeca opposed the Portuguese with cannons. They had defended their streets by mining with gunpowder.

Bahadur Shāh of Gujarat had with him cannons of various shapes. He employed a Portuguese Muslim convert and a Turk called Rūmī Khān, who was a specialist in the making of cannons. Rūmī Khān had brought with him a cannon which was called "Egyptian Cannon" and was drawn by 300 men and several animals. It was manufactured in Egypt in A.H. 937 (1530 A.D.)<sup>74</sup>

Sikandar, the arthodox Muslim, invaded Kashmir in the closing years of 1400 A.D.<sup>75</sup> and demolished a number of Hindu temples. Alexander Cunningam believes that "such a complete and disruptive overturn was possible only with cannos, Gibbon<sup>76</sup>, it is true, denies that either the Mughals or the Ottomans in A. D. 1402 were acquainted with gunpowder; but as he points out that the Turks had metal cannon at the siege of Constantinople in A. D. 1422; I think it is no great stretch of probability to suppose that gunpowder itself had been carried into the East, even as far as Kashmir at least ten or twenty years earlier, that is, about A. D. 1420 or certainly during the reign of Sikander, who died in A. D. 1416".<sup>77</sup>

Bābur in his autobiography has admitted that Bengalis were expert artillerists. The Bengalis must have learnt this art from the Portuguese. Bābur had with him several firingīs the term itself signifies of their European origin.<sup>78</sup>

In short, it is clear that in ancient India projectiles were used which were capable of setting fire from a considerable distance. There were a number of machines, missiles and other artillery instruments, mainly used in the siege warfare. There were no fire-arms in the real sense of the word. During the medieval period, much before the advent of Bābur, the real fire-arms were definitely known and used, specially in Gujarat. Thus Bābur should not be credited to have introduced fire-arms in India yet he was responsible for making proper use of these arms on a massive scale which eventually provided them an indispensable place in the Mughal arsenal. In all the subsequent battles fought on the Indian soil the fire-arms played the most leading and decisive role.

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#### REFERENCES

- 1. No discovery of science has played so vital role in shaping the destinies of nation as the introduction of gunpowder and fire-arms into warfare. The origin of the gunpowder has baffled the scholars. Its invention has been ascribed to different countries but the problem of its authorship and antiquity still looms large. Some believe that the gunpowder was first invented in China. In Germany Berthold Schwarz is credited to have invented gunpowder about the year 1330 AD. Prior to Berthold Schwarz, Roger Bacons (1214-94 A.D.) of England had written an essay on the ingredients of gunpowder. Still some scholars say that Marcus Graecus of the 13th century was the inventor. According to an old tradition the Arabs possessed the knowledge of the manufacture of gunpowder at an early date.
  - Vishwamitra presented different kind of weapons to Rama, one of them was a missile Shikhara by name, the favourite weapon of Agni (the god of fire):

ददामि चास्त्रं पैनाममस्त्रं नारायणं तथा ग्राग्नेयमस्त्रं दियतं शिखरं नाम नामत:

(Rāmāyaņa, Bāl-Kānda, Canto xxvii, verse 10)

Carey and Marshman render Shikhara as combustible weapon and deduce from these passages that the ancient Hindus were acquainted with gunpowder.

- 3. Mahābhārata, Ādiparva, cxxx, 39, 40,
- 4. Krishna Mohan Banerjee in his Encyclopaedia Bengalensis (vol. III, p. 21) states that the Brahmāstra of Shri Bhagwata was a matchlock.
- 5. Encyclopaedia Britannica, part II, p. 3.
- 6. Rigveda, VII, 1.3:

प्रद्धो ग्रग्ने दीदिहि पूरो नोडजस्रया सुम्या यविष्ट । त्वां शरवन्त उप यन्ति वाजा।।

In the Rigveda the extermination of the Non-Aryans (rakshasas) with the fire-arrows is recommended:

"Root up the race of rākshasas, O Indra. Rend it in front and crush it in the middle, How long last those behaved as one who wavers? Cast thy lot and burning shaft at him who hates devotion."

Rigveda, III. 30.17

- 7. Gustav Oppert, On the Weapons, Army Organisation and Political Maxims of the Ancient Hindus (Ahmedabad, 1967), pp. 43-82.
- Yajurveda, 1.5.7.6.

badly burnt all over:

9. Finding various weapons of no avail, Lakshmana fitted to his bow sharp arrows with the velocity of lightening, and loosed them for the destruction of Rāvaṇa:

स बाणवर्षं तु ववर्षं तीव्रं रामानुजः कार्मं क सम्प्रयुक्तम् ।। क्ष्रार्धंचन्द्रोत्तमकणिभल्लै: शंराश्च चिच्छेद न चुक्षुभे च। स बाणजालान्यपि तानि तानि मोघानि पदयंस्त्रिदशरिराजः।।

(Rāmāvana, VI. 59.101-3) Rāvaņa, in turn, shot the fire-arrows at Nīla, the Commander-in-chief of Rāma. Nīla was

> सोऽस्रमुक्तेन बणेन नीलो वक्षसि ताडित:। निदंह्यमानः सहसा स पपात महीतले ॥

> > Ibid., VI. 59.90).

The historic arrow with which Rāvaņa was ultimately killed has thus been glorified:

यस्य वाजेषु पवन: फले पावकमास्करो । शरीरमाक।शमयं गौरवे मेरुमन्दरो जाज्वत्यमानं वपुषा सुपुड्खं हेमभूषितम् । तेजसा सर्वभूतानां कृतं मास्करवर्चसम् ।।

i.e., "The point was presided over by the God of Fire and the Sun God, the shaft was made of ether while the Mandara and the Meru mountains presided over its weight. Provided with lovely feathers and decked with gold, the arrow emitted fire," Rāmāyaṇa, Kalyāṇa Kalpataru, Canto 108, verses 6, 7.

- 10. The Mahābhārata records that sage Bhāradwāja bestowed the āgneyāstra upon Agnivesha, the son of Agni, the God of Fire, who later conferred it upon Bhāradwāja's son Drona. Wilson, in a note to this passage, says, "Fiery arms or rockets were possibly employed by the Hindus in remote antiquity, as well as in recent times; whence came the notion of certain mysterious weapons framed of the elements, and to be wielded only by deities and demi-gods. These make a great figure in the battle scenes of the Mahābhārata," vide, Johnson's Selection From the Mahābhārata, p. 1.
- 11. In the *Harivamsha* it is described that king Sagara received fire-arms from Bhargava and conquered the enemy:

आग्नेयम् अस्त्रम् लब्ध्वा च भगवात् सगरो नृपः। जिगाय पृथ्यीम् हत्वा तलजघान् सहैहयान !।

Harivamsha, XIV, 33

In the same book (translation, vol. I, p. 211) the whole legend of Urva and Aurva is described. M. Langlois, the translator, takes it to be some kind of "Greek fire'.

- 12. It has been included in the list of amukta weapons by Vaishampāyana.
- 13. Halhead, Code of Gentoo Laws, p. 52.
- 14. H.H. Wilson, Works, vol. IV, p. 303.
- 15. Gustav oppert, Nitiprakāshikā, p, 11.
- 16. EW. Hopkins, Journal of American Oriental Society, vol. XIII, p. 229.
- 17. The city of Indraprastha was defended by a shataghni. Similarly, Dwārakā, Ayodhyā and Lankā were protected with shataghnis placed on the ramparts, Describing the fortification Lankā, Hanumān says, "Lankā ever rejoices being filled with rutting elephants. Its gates are firmly established and furnished with massive bolts. And it has four wide and giant gates. At those gates are powerful and large arms, stones and engines whereby an approaching hostile host is opposed. At the entrances are heaped huge rocks, and the bands of heroic rākshashas have arrayed three hundreds of dreadful iron shataghnīs" (Rāmāyaṇa, Yuddha-Kāṇda, Book 6, canto 3, verses 10-15.
- 18. Mahābhārata, Vanaparva, 15-7.
- 19. G.N. Vaidya has compared it with a catapult or a cross-bow, but nowhere it has been described as a machine propelling arrows. In the Rāmāyaṇa the shataghnīs have been referred to as a weapon of siegecraft, made of steel (kalayasamayah), sharp (sitah) and dreadful (bhimah). The Nitiprakāshikā describes it as made of iron; it had the shape of a hammer and was studded with iron spikes:

शतध्नी कण्टकयुता कालामसमयी दृघा।
मुद्गराभा चतुर्हस्ता वर्तुं ला त्सरुण युता।।

(Nītiprakāshikā, V. 48, 49).

- 20. Kauṭilya includes it in the movable machine and it has been translated as a big pillar provided with an immense number of sharp points at its surface, and situated on the top of a fort wall". Arthashsātra, Book XIII, Chapter 4.
- 21. Dashakumāracharita
- 22. Matsya Purāṇa
- 23. Vide, Indica Excesias, XXVI, ed. Baer, p. 356.
- 24. Vide, Notes on Ctesias, p. 61.
- 25. Kautilya (Arthashāstra), Book XIII, Chapter 4) stresses the use of incendiarism in warfare even to using birds and monkeys as fire-carriers. The Aitareya Brāhmaṇa describes an arrow with fire on its tip.
- 26. Kautilya, Arthashāstra, Book XIII, Chapter 4. In the Mahābhārata (4.55.23) is recorded bānēna jualitena i.e., 'flaming arrows'. This may be metaphorical though one would assume that the metaphor is derived from the actual practice. See also Mānasollāsa, vrses 1065, 1067 and 1213. The Mānasollāsa has recommended the use of arrows carrying burning material against the elephants (verse 1213). The Rājatarangini records the actual instance of the use of "burning arrows smeared over the vegetable oil, struck by which the enemies caught fire" (VII. 982-3).

यन्त्राणि लोहसीसानाम् गुलिकाक्षेपकाणि च । तथा चोपलयन्त्राणि कृत्रिमाणयपराणि च।।

Nītiprakāshikā, v. 52. cf., J. Talboys Wheeler, History of India, vol. I, pp. 405 and 422.

- 28. The ordinary components of gunpowder are saltpetre, sulphur and charcoal. In the Shukranītisāra saltpetre has been termed suvarahilavana (or 'well shinning salt'). It is also employed in many medicines. The second ingredient, sulphur (gandhaka), is commonly found and so is charcoal. It is to be noted that among war materials collected in the battle-field of Kurukshetra, charcoal was one.
- 29. Jogesh Chandra Roy "Fire-arms in Ancient India", Indian Historical Quarterly, vol. VIII (Calcutta, 1932), p. 268.
- 30. W.F. Sinchair says, "...it seems to me that if they (the verses) are not such interpolations the whole work must be a forgery of, at least, 17th century, a period which I am led to select by the mention of the flint", Indian Antiquary vol. VII (Sept. 1878) p. 231
- 31. Shukranitisāra, Chapter V, shlokas 136-8.
- 32. Ibid., shloka 140.
- 33. All these plants whose charcoal is best suited for gunpowder, according to the Shukranitisāra, grow in great quantity all over the country. In this way it was not difficult for the ancient Indian gunsmiths to procure the raw material.

सुविचलवणात पंचपलाने गन्धकात षलम ग्रन्तधूमं चिपक्कार्कस्मुहन्यद्यद्यारतः पलम शुद्धासंग्राहय संचूर्णं सम्मोत्य प्रपुटैट्के स्मह्यकंणं रसेनास्य शोधयेदातपेन च पिठठ्वा शर्कर वच्चयेतदिग्न चूर्णं भवेत खलु

34. Shukranitisara, Chapter V, shlokas 141-2.

35. Manusmrtei, 7.90:

न क्टैरम्रायुघरै हन्यात् युघ्यमानो रणो रिपून । न कणिभिर नापि दिग्धैर नाग्निज्वलिततेजनैः ।।

- 36. Halhead, Code of Gentoo Laws, p. 52.
- 37. In the Naishadhacharita of Shriharsha, datable to the 12th century A.D., "the two brows of Rati and Manmath are made for the conquest of the world, the are guns of those two (Rati and Manmatha) who wish to throw balls on you, are like her (Damayanti's) elevated nostrils", Naishadhacharita, II. 28. Kāmandakiya, II. 28.
  - The Kāmandakiya similarly, refers to the gun when it says, "the confidential agents keeping near the king should rouse him by strategems, gun firing and other means, when he is indulging in drinking bouts, among women, or in gambling", Kamandakiya, V. 51.
- 38. Johan Beckmann says, "In a word, I am more than ever inclined to acceed to the opinion of those who believe that gunpowder was invented in India, and brought by the Sarachens from Africa to Europeans; who, however, improved the preparation of it, and found out different ways of employing it in war as well as in small aims and cannons", History of Inventions and Discoveries quoted by Gustav Oppert, op. cit., p. 48.
- 39. It was a favourite implement with the Arabs and was used by them. Muhammad besieged Taif, but it was known to them much earlier. Ibn Kotaibah records that it was introduced by Ja, the second king of Hyrah, in about 200 A.D. cf., Haji Khalifa, vol. I, p. 394.
- 40. The manjanik (also spelt as manjanig) was called urus and has been translated as "the bride".
- 41. Irvine, Successors of Mahomet, p. 236. Mir Masum Bhakkari in his History of Sind and Haidar Razi in his General History mention ātish-bāzī.
- 42. The term napth āoriginally meant 'Greek fire', in modern Persia it means 'petrol'. Since we find napthā being used again and again for burning of houses by the Arabs and later by the Mongols, the reference can, in all probability, be to gunpowder. This is clarified by Yezdi who on occasions used the term napthā-i-syāh or black napthā, which could mean gunpowder. As per practice Mongols first heated the stone of the fort-wall and then threw vinegar upon it. This reduced the stone to dust which was drawn out by a chisel. The process was proceeded with and wooden stakes had to be put to prevent the fort-wall from falling, when they had proceeded deep enough, the gunpowder mine was laid and set in fire. Vide, M. Habib and K.A. Nizami, A Comprehensive History of India (ed.), vol. 5 (Delhi, 1970), p. 125 footnote.
- 43. In the early medieval period some arrows headed with hollow brass balls perforated with three or four holes were filled with inflammable composition. These were shot burning on to the roofs and into the houses. This practice was culled from the Arab invaders who used napthā as inflammable agent on their arrows. A further device was the red-hot arrow-head. It was heated in small charcoal braziers and was quickly shot. The aboriginal tribes of Kols and Santhals of Bengal and Bihar shoot wild animals, specially bear, with red-hot arrows believing them to be more effacacious than a cold blade, and, no doubt, they are. For details on 'Fire-arrows' see G.N. Pant, *Indian Archery* (New Delhi, 1978), p. 180,
- 44. The Arabs threw vessels filled with fire-works (hukkāh-e-ātis-bāzī) on the howdāh in which was seated Rājā Dāhir. The elephant of Dāhir got frightened and became ungovernable. The Chāch-nāmā mentions catapults but is completely silent about the "engines throwing fire" (vide, The Journal of Asiatic Society of Bengal, vol. VII, p. 307 and vol. X. p. 189.

- 45. One of Muhammed-bin-Qāsim's successors used a battering ram "And Junaid fought aganisj Kiraj, which had revolted, and he took a battering ram with horns of great power and demolished with it the walls of the city", vide, The Journal of the Asiatic Society of Bengal, vol. I, p. P70. It also mentions that Muhammad-bin-Qāsim had 900 napthā-throwers who discharged napthā from bows (ibid, p. 145).
- 46. Major General Briggs comments, "This passage is differently written in the various manuscripts I have seen: and, in some, the word tope (gun) has been written for napth (naptha) and toofang (musket) for khudung (arrow) But no Persian or Arabic history speaks of gunpowder before the time usually assigned for its invention, A.D. 1317, long after which it was first applied to the purpose of war. It appears likely also that Babur was the first invader who introduced great guns into upper India in 1526 A D., so that the words tope and toofung have been probably introduced by ignorant transcribers of the modern copies of this work, which are, in general, very faulty throughout. It is a remarkable fact that the words "guns" and "muskets" occur in the India House library, London, manuscript which was copied in 1648 A D., and it may, therefore, probably be no error of the transcriber; the fact, however, appears impossible". Wilken confirms that the two manuscripts that he consulted contain the word top and tufang. He opines that 'Greek-fire' was used by Mahmūd of Ghaznī, cf., Mirchandi Historia Gasneridarum, p. 169,
  - 47. Reinaud, Rel. des Voyages, vol. I, p. xi.
  - 48. "Near Mukeya Ghat, on the Indus, it oozes out from parts of Khybore range. The natives are ignorant of its commercial value and use it only as a cure for sores on their camels' backs; and at Kohat, thirty miles from Peshawar, it is also abundant", Burnes, Bokharo, vol. III, p. 259.
  - 49. Cf., A Fleming, "Report on the Salt Range", The Journal of the Asiatic Society of Bengal (1848). The natives call it sulphur oil (locally lalirā and kālā-pānī) and apply it to the diseases of cattle and also for dissolving resins, caoutchoue by virtue of napthā it contains which it yields by distillation.
  - 50. Prose authors give no information, Sad Salman. a contemporary poet, gives long descriptions of Indian battles, yet never alludes to the use of anything like gunpowder, but notices fire at the siege of Agra.
  - 51. In the 150th chhanda (stanza) of the Kanauj Khand of the Prithvirāj Rāsō, Tātār Khān says to Muhamman Ghorī, "O! Chief of Ghajnī, buckle on your armour and prepare your fire machines". Again in the 257th stanza it is said, "the cavaliers and cannons made a loud report, when they were fired off and the noise which issued from the ball was heard at a distance of 10 kos (1 kos = 2 miles).
  - 52. In the 416th stanza we have, "The zambūr lodged in his breast and he fainted away; thus fell Rāi Govind, the strength of Delhi": The word zambūr is commonly applied to 'camel swivel'.
  - 53. The Khulāsatu-t-Tawārīkh says that tops were used at Autore in 1303 A.D.
  - 54. Firishta, Litho ed., vol. I, ρ. 128. It may be mentioned that the word ātish-bāzi has been applied both for pyrotechnic displays as well as for artillery hence the meaning of the passage is not very clear here.
  - 55. Historic de l' Artillerie: du Feu Gregeois (Paris, 1845), jointly written by M.M. Reinaud and Fave mentions that among the Arabs of the 13th century many receipes were in use for the mixture of sulphur, saltpetre and charcoal in different proportions. There is strong reason

for supposing that these were obtained originally from the Chinese, about the 9th century. The Arabs improved their knowledge during the three following centuries. They derived more instruction on this subject after the Mongol irruption in the 13th century. The book further says that in the Sang Dynasty, as early as 1259 A.D., there is distinct mention of a projectile by means of fire. These two authors believe that the "Greek fire" never became extinct: it was gradually improved upon till the name was lost and by progressive transition it reached its maximum effect by conversion into gunpowder.

- 56. Journal of Indian History, XV, p. 187.
- 57. M. Akram Mukhdomi, Journal of Indian History, vol. XV, pp. 185-8.
- A.Z. Nadvi, Is. C., XII p. 405.
- Some scholars have attempted to translate the word garara into a "cannon ball". Garara is, referred to in the hāsiyā of Kiranus Sadain, p. 40.
- 60. It is recorded "Shortly after this battle the Bahmani King collected a train of artillery which had never till then been employed by the Muslims in the Deccan; he gave the command to Mookurrib Khan, son of Sufdur Khan Seestany, attaching to him a number of Toorko and Europeans acquained with the art of gunnery". Briggs, II, p. 313.
- 61. Briggs, Tuhfat-us-salatin, vol. II, p. 432. The same author describes a manjanik used for a horrible purpose (ibid., vol. II, pp. 303, 404).
- 62. Ibid., p. 312. Cf., also HIED I, appendix on "The Early Use of Gunpowder in India" reprinted in the Studies in Indian History by Elliot and Dowson (Calcutta, 1953), pp. 84ff.
- 63. The Matla-us-Sa'dain, however, in one passage refers to mushksaz (squib-making).
- 64. Firishta informs that in the next battle with Vijayanagara, about 8 months later, Muqurrab Khān used his artillery with great effect.
- See Notices des MSS, vol. IV, p. 420.
- 66. One of the applications of the gunpowder was the manufacture of shells. A few years later in 1545 A.D. Sher Shah met his death by the explosion of one of his own batteries, when besieging Kālinjar.
- 67. Kerr, Collection of Voyages, vol. II, p. 364.
- 68. Rowlandson, Tohfut-ul-Mujāhidīn, p. 81.
- 69. Kerr, op. cit., p. 454. The fate of these two men is shown in the same Collection, vol. VII, p. 128.
- 70. Ibid., p. 403, see Vertomann, Hakluyt, vol. IV, pp. 576, 577, 591, 600.
- 71. Faria-Souza, Asia Portuguese, tom I, part I, chap. 5.
- 72. Ibid., chap. 7.
- 73. Ibid., tom I, part II, chap. 7. At that time Muhammad, King of Java, opposed the Portuguese with 3000 guns. He had a total of 8000 guns with him.
- Is. C., XII, pp. 407-9. 74.
- Sikandar known for idol-breaking (but-shikan) was contemporary and friend of Timūr. the lame, and it is possible that he might have got gunpowder as a gift from Timūr at the time of his invasion in India in 1399 A.D.
- Gibbon, Decline and Fall, chap. 65, note 93. 76.

- 77. A. Cunningham, "Arian Architecture", Journal of Asiatic Society of India, Calcutta edition, p. 233.
- 78. Leydon and Erskide, Memoirs of Bābur pp. 413-416.
- 79. P.K. Gode has given a chronological list of the use of gunpowder in between 1400-1700 A.D. cf., G.N. Pant, Bhāratiya Ashtra-Shastra (Hindi) (New Delhi, 1974), pp. 213-5.

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# Glossary

Abbāsī A curved sword.

Absad Cheek-piece of a helmet.

Absar Leather shield.

Adaga A shield or parrying weapon of Arabic origin. The name is derived from

Arabic el-darakah meaning 'a shield'.

A dagger having a straight heavy, single-edged blade tapering to a point. Afghan Knife

Āfiābgir A royal ensign.

Aftāb-i-Alam One of Aurangzeb's shields meaning 'Sun of the world'.

Cavalry troops in imperial establishments. Ahadi 'Poem of Throne' from the Holy Quran. Aiatul Kursī

Written by Abul Fazl Allami, Akbar's official chronicler and biographer. Akbar-nāmā Aketon

Heavily padded garment worn under the hauberk of mail, also called

'wambais' or 'acketon'.

Akhtāchīs An officer over horses. Ālam A royal standard.

Master of the horses during Mughal period. Albegi

Manufacturer or artisan. Amal Short infantry spear. Anāzah Nasal of the helmet. Anf Elephant-goad. Ankush

The holder of elephant-goad, also called mahaut (elephant-driver) Ankushadhara

Gun-carriages or baggage-carts employed by Babur at the battle of Arābā

Panipat in 1526 A.D.

Blade of a spear; a pole arm. Arad

A ring worn on the thumb of the left hand to protect it from the Archer's Ring

pressure and friction of the string of the bow.

The high peaks, front and back, of the war saddle. They were sometimes Arciones

covered with steel plates which were beautifully decorated.

Armoured knight or a soldier carrying arms. Armed

A kind of closed helmet that conforms to the shape of the head and covers Armet

it completly

A padded garment worn under armour to protect the person from Arming Doublet

blows, stains and chafing.

The sword belt worn over the armour Arming Girdle

Spurs worn with armour. **Arming Points** 

Defensive covering for the body worn in fighting, Armour

Mughal Weapons in the Bābur-nāmā

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Manufacturer of armour. Armourer

Place where arms and armour are kept; arsenal.

Horse armour: a quilted trapper for a horse usually forming a foundation Armoury Artak-i-kājem

for one of mail.

The most celebrated of Persian swordsmiths. Assad Ullah

The arrow for shooting the birds.

Movable front piece of helmet made like a transparent veil. Aug Aventail

B

The word means 'panther' in Turki language. Rāhur

A light helmet. Bacinet or Basinet

A kind of body armour. Back and Breast

A device to distinguish the followers of a king or a chieftain and was the Badge

origin of armorial insignia and coat of arms.

A plate defence for the forearm with or without an extension for the Bājūband or Bāzūband

head.

Scale armour. Bakhtar-zillo

Surcingle of silk for horse Bālātang

Collar or shoulder-belt worn as a support for a sword or simply as an Baldric

ornament.

A short spear with a broad head. Ballam

Battle-axe. Baltū

A variety of mail showing alternate rows of links and solid discs. Bamded Mail

A baldric or waist-belt. Bandolier

Cavalry lance completely of metal. Burachhā

Armour for horse. Barding

Crest of the helmet fitted with heron feathers, also called bagta-kalagi. Bakha-kalaghi A Turkish weight of 13 to 15 pounds. This refers to the strength demand-Batmān

ed for rounding the bow. It refers to draw-weight.

Baydah Egg-shaped helmet.

A mystic symbol with a square divided into four parts, each containing Bedouh

even numbers.

Belt Sword A sword with such a flexible blade that it could be worn as a belt.

A defensive coat with a gorget (throat guard) attached; also called Bhanju

bhanjee.

Bichāq A dagger with a straight single-edged blade and a straight handle made of

two plates of ivory riveted to the flat tang.

A bar put inside the horse's mouth in order to control it. Bit

Black Armour The armour that was blackened or painted to prevent it from rusting.

Boss A projection from the flat or (nearly flat) surface on the central part of a

shield.

Bracer Archer's guard or a covering for the left wrist to protect it from the

recoil of the bowstring.

Brassard Plate armour for the entire arm.

A broad strap crossing a horse's chest and fastened to the saddle. Breast-strap Bridle A device to control the horse. It consists of headstall, bit and rein. Brigandine

Suit of fabric or leather fitted with metal plates and gilt studs.

Buckler A shield with handle (or two close together) in the centre and held in the

hand.

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Bukhtar A solid breast-plate.

Burk Mughal cap.

Burnishing In this process the miniature painting, after it was well finished, was

laid face down on a hard smooth surface and then firmly rubbed with

an agate or jade.

Butted The rings (or links) of the armour not riveted but only brought together.

C

Calthorp or caltrap Spikes planted in the ground to prevent the advance of the cavalry.

Camail A guard of mail for the sides, neck and the shoulders.

Cantle The rear peak of a saddle.

Caparisoned Horse's trappings, equipment or outfit.

Cavalier Horse-soldier; an armed horseman.

Cavalry Horse-soldiers; cavaliers.

Cavalry helmet Helmet composed of mail and plates and preferred by the cavaliers.

Chamchāq A battle-axe fastened to a saddle. Chamfrom defence for a horse's head; frontlet.

Chirwã A small Mughal shield.

Chiselling Trimming; to cut to shape with a chisel tool.

Chobdar Mace-bearer.

Chhurā A knife or a dagger, the smaller ones were called chhurī.

Coat Armour Any military garment with the armorial ensign of the wearer embroidered

on it.

Coats of arm Symbols of knights on their armour.

Coat of male Any male garment that covers the body, strictly one that opens down the

front.

Coif Male hood.

Crest The ornament surmounting a helmet; kalaghi.

Cresting The ornamentation of arrows.

Carinet Armour for the upper side of a horse's neck.
Crupper Armour for the hind quarters of a horse.
Cuella Armour for the under side of a horse's back.

Cuirass A defence for the body, originally of leather as the name implies but

now applicable to any kind of body armour.

Cuirassier Horse soldiers wearing cuirass.

Cuirbouilli The armour made of boiled leather.

Cuisses Defences for thigh.

Curb Bit.

Cushion Mass of soft material stuffed into cloth or silk covering.

D

Dagger A general name for all kinds of knives usually worn at waist or hip.

Damascening Decorating a metal by inlaying; an art of encrusting one metal on the

other.

Damascus The capital of Syria famous for its special steel blades hence Damascus

steel.

Darāka A shield usually made of hide. See also tur or tūra.

Mughal Weapons in the Bābur-nāmā

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Daragah

A small, convex leather buckler.

Dastanā or Dastanāh

Arm guard; plate defences for the fore-arm with or without extension for

the back of the hand.

Delhishāhī

A variant of hilt consisting of disc pommel, oval grip, short and stubby

quillons and triangular langets.

Dhāhdār

Shield-maker.

Dhāl

A general name for a shield, buckler, target, etc.

Dhāl-baftā

A shield made of fifty folds of silk.

Dhūp

A sword having a broad, straight, long, double-edged blade and a padded

basket hilt.

Dirk

A dagger or short sword.

Divan Dodhara A collection of poems written by Bābur and sent to Pulād Sultān in 1519.

Double-edged sword or dagger.

Doublet

Close fitting body garment worn by men, with or without sleeves and short

skirts.

Dubalghā burkī

Same as dubalghā.

Dumchi

Crupper (for horse) of leather covered with velvet and small metal bosses.

E

Ear-flaps

Ear-guards; parts of a helmet for the defence of the ears.

Elephant-goad Embossing

The instrument with which to guide, goad or drive the elephant; ankusha. A style of decoration. It is changing the relative levels of different parts

of a piece. It can be done by raising some part or sinking the other.

Enamelling

Glass-like opaque or semi-transparent coating on metallic surface for

ornaments; minākāri.

Enarmes

Loops on the back of a shield through which the arm is passed.

Ensign

Originally it included all flags, banners, standards, guidons, pennons

and bandrolls Now it signifies the national flag carried on a vessel.

Epaul de Mouton

A large curved guard worn over the regular armour to protect the

right arm armaments, as elbow guard protects the left.

Epaulettes

'Shoulder-cop' also called 'epaulets', 'epaulieres' and 'pollets'.

Espalliers

Shoulder guards.

F

Fabric Armour

Quilted or the defensive covering made of fabric.

False edge

In single-edged swords a few inches of the back near the point is frequently sharpened to make them more effective for thrusting. This portion is known as 'false edge'.

Filigree

Ornamental work of fine gold or silver or copper wire formed into delicate tracery.

Finger-Guard

The portion of a sword that protects the fingers from a cross-cut. It is formed by recurving the two (quillons and pommel) by a plate, a bar

etc. In its elaborate form it becomes a basket hilt.

Flag

A flag is hung directly from a vertical staff while a banner is fastened to a

cross-bar hung from the staff.

Flanchard

A defense for a horse's flank generally suspended from the saddle; plate armour for horse's side.

CC-0. UP State Museum, Hazratganj. Lucknow

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Flight Feathers for arrows.

Foible The part of the blade near the point of the sword.

Foining weapons Thrusting weapons.

Foliage Representation in art as leaves excluding petals and flowers, etc.; foliate;

foliar; leafage.

Forte The part of the sword nearest the hilt.

Frond Leaf-like decoration formed by union of stem and foliage; leaves and

stems but not flowers.

Frontal Armour for a horse's head.

G

Gad An implement used to goad an elephant.

Gajbāga A variant of elephant-goad.

Gardanī Armour for the hand.

Gauntlet Armour for the hand.

Gauntlet swort The Marāthā patta sword the hilt of which is gauntlet.

Gerrhes A Persian shield.

Ghagri Rattle of metal tied on the legs of the horse.

Ghārīchā A variety of coat.

Ghāsiyā A saddle-cloth popular in Bokhārā.

Ghughwāh A mail coat with a hood permanently attached.

Ghurcharches Armoured Sikh cavalry.

Gig or Gigu A sling for a shield.

Gilding Covering with thin layer of gold or silver laid on as gold leaf; mulammā.

Girth The band or strap holding a saddle in place.

Glancing knob Large bosses on the poitrel of a horse to deflect lance thrusts

also called 'bossoirs' or pezoneras'.

Godhā A leather bracer worn by bowman.

Gorget Armour for the neck.

Goshā-gir An instrument used to straighten the middle portion of the bow.

Greaves Leg armour which covered from the knee to the ankle.

Guige A strap with which the shield was hung through the shoulder and neck.

Gulubund Strips of velvet flowered with silk for mane.

Gupti Concealed weapon.

Gupti-kard It was a knife for thrusting. It was kept in a sheath and had a gauntlet.

Gurz A mace with steel spikes fitted on the globular head.

H

Harness Working equipments of horse or other animals; defensive armour.

Hāshiyā Borders. The miniatures of the Babur-nāmā are without borders, through

most Mughal miniatures paintings have beautiful margins.

Hauberk Skirt or coat reaching to the feet and with long leaves, a kind of overcoat.

Headstall A part of bridle.

Helm Armour for the head; same as helmet.

Helmet Head covering or armour for the head; shirastrana.

Hide Animal skin, raw or dressed.

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Holster A case fastened to the belt or saddle in which to carry a pistol or other

small weapons.

Horn armour Armour made of horn.

Horse armour Armour for horse, same as barding.

Horse Furniture The equipments of a horse; harness, trappings and armour.

Howdah or Hawdah The wooden saddle placed upon the back of an elephant; an elephant

housing.

Humāyun-nāmā A chronicle of family affairs written by Gulbadan Begam (daughter of

Babur) in 1587 A.D.

I

Imbricate

Same as 'scale armour'.

Inlay or Inlaying

To glue or paste one metal on another.

J

Jāgawat An implement used in goading an elephant.

Jaghnol It had a steel handle with a head shaped like the beak of a bird.

Jāmā A long shirt or coat of cotton worn usually over the armour or as a sole

defence.

Jamadhar A typical Indian thrusting dagger with H-shaped handle and a sharp,

pointed, triangular blade.

Jauhar The watering of the blade.

Jaushan Coat of mail.

Javelin A throwing spear.

Jazerant Armour made of strips of horn, leather or metal fastened to cloth or

leather; same as jajerant.

Jibā A quilted coat worn beneath a mail shirt or as the sole body defence; also

called jibbāh.

Joshan A kind of Mughal breast plate.

Junah Shield made of laminated wood and covered with leather; also called

junan, mijann, mojin and junnah.

K

Kafal-posh Loin covering of black velvet, for horse.

Kājam Horse armour of mail, see artak-i-kājam.

Kalaghi Ornament surmounting a helmet; same as 'crest'.

Kamar-band Waist-belt.

Kameha A Turkish whip.

Kamar Belt carrying flasks.

Kantha-shobha A gorget; armour for the neck and throat.

Kantop Close-fitting helmet of one piece.

Kard A straight-bladed dagger with a

Kard A straight-bladed dagger with a straight hilt and no guard.

Kardang A variant of goshā-gir.

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Kārkhānās Workshops, studios.

Karud A straight-bladed peshquabz.

Karwā Mantelet of raw hide, stuffed on both sides with wool or cotton.

Kashka A chamfron or horse helmet, same as qasqāh.

Kawnās A tall conical helmet.

Kazaghand A mail shirt covered and lined with fabric. Khalkha Cane shields used by the Seljuk Turks.

Khāndā A sword having broad, straight blade widening toward the point.

Khanjar A slightly curved, double-edged dagger.

Khapwāh A dagger with a curved, double-edged blade with a strong rib.

Khatt-i-Bāburī A new style of writing introduced by Bābur.

Khawdhā A helmet.

A round Mughal shield. Kherā Saddle; red velvet. Khogir

One piece Indo-Persian (or Perso-Indian helmet also called khod, khudh, Khud-

khuddah Islamiā).

The Gurkha sword. Khukari or Kukri See Afghan knife. Khyber Knife

The Indo-Turkish sword. Kilif

Indian brocade, also spelt as kinbob, kimkob, etc.; brocade used extensively Kimkhāb

for lining armour.

A straight-bladed dagger with a groove. Kindjal

The 'forty steps' in allusion to the transverse markings of fine grey Kirk Narduban

or black watering.

Armour generally for horse's knee. Knee Guard Knee cop or shield to protect the knee. Knee Shield A common weapon with many varieties. Knife

Rounded proturberance on the surface of shield. Knob

Whip. Kodā

The decoration of iron with patterns in gold and silver either inlaid or Koftgāri

overlaid commonly called 'false damascening'.

A Turkish cuirass of plates connected with nail. Korāzin

Indo-Persian helmet entirely of mail or of mail connected with small Kulah-zirah

plates.

L

Gold coloured varnish of shellac dissolved in alcohol used as coating Lacquering

on shield or other object.

The warrior fighting with cudgels referred to in the Ain-i-Akbarī. Lakrait

The plate, scale, layer, film or splint of bone or metal. Lamallae

Armour composed of strips of metal riveted upon leather or fabric. Beat or roll the metal into thin plates; split into layers or leaves; overlay Lamellar

Laminate with metal plates; manufacture by placing layer on layer.

Thin plate, scale, layer or flake of metal or bone. Its singular form if Laminae

'lamina'.

Defence for the leg; also see rāg and rāk.

Leg armour Same as 'knee-cop'.

Layer of different material inside a garment, shield, armour, etc. Leg-shield Lining

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Lip Loop The edge of the shield curved upwards.

Ring or curved piece of metal.

#### M

Mādū

Same as mārū.

Mahtāb-i-Ālam

One of Aurangzeb's shields meaning 'Moon of the World'.

Mahāut Mail

Elephant-driver. Small rings or links.

Mail armour Manivarma

Armour made of interlinked mail.

Armour studded with jewels.

Mantlet

Large shield supported from the ground and used as defence in attacking

fortified places.

Mārū

Marāthā parrying shield fastened with a pair of buck horns.

Matchlock

A gun with lock in which match is placed for igniting powder; torédar

Mighfar A segmented coif of mail.

Mijinn Morion

Same of junāh. A Spanish helmet.

Moza-i-ahni Mrgadhar Mundāsā

Iron socks covering the foot and the foreleg. Wearer of shield of antelope skin i.e., Shiva.

A kind of turban.

Musket Musketeer Infantry soldier's hand gun. Soldier armed with musket.

#### N

Nagārā

Drum; a helmet shaped like a drum; a drum-shaped shield.

Nāgphani dhāl

Shield decorated with cobra design.

Nargāh

A circle drawn by the horsemen to draw the game towards the hunter.

Nasal Neck-guard

A nose-guard attached to the helmet. Defence for the neck; also see bhanju.

Nivata-kavacha

Invulnerable plate.

Nirvyuhs

Helmet shaped like a tower; a Vedic term.

Nose-guard

See 'nasal'.

### O, P

Oblong shield

Rectangular shield with the adjacent sides unequal.

Padding Pagari

The lining inside the armour or shield. Turban or turban-type helmet.

Pahri

A Mughal shield of cane or bamboo; also called phāri.

Pākhar Papier mache Elephant armour.

Article or shield made of moulded paper pulp; chewed paper used for tray

shield, etc.

Shield used for thrusting, see mārū. Parrying shield

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Perforated shield

Shield having openings for the user to see the enemy without being

exposed.

Pharait

The warriors using one yard broad shield according to the Ain-i-Akbarí.

Peti

A wooden shield according to the Arthashāstra.

Phalaka Pinnacle

Epic term for a 'sword,' sometimes also used for a 'shield'. Small ornamental turrets usually ending in pyramid or cone.

Pindhārī Pistol

The miltant people of Western India, mostly outlaws. Small fire-arm held and fired by one hand within short range.

Pistol-shield Piyāzī

Shield fitted with a pistol.

A club shaped like an onion.

Plume

Feathers used to decorate a helmet.

Plume-holder

A tube fixed on a helmet to hold a plume.

Purdāh

Aventail

Q

Oābā

Cloak

Qashqāh Qawnās Frontlet for the horse. Crest of a helmet.

Quilted cuirass

Body armour of fabric stuffed with cotton. A case for holding the arrows; tarkash.

Quiver

The weapons for the personal use of the Mughal emperors.

Qūr Qūr-khānāh

The imperial department which manufactured arms and armour for the

Mughal army.

R

Rāg

Leg armour made of small plates of iron and chain.

Rāk

Leg armour made of small plates of iron nd chain; see also rāg.

Relief

Method of moulding or carving or stamping in which design stands out

from plane or curved surface.

Rivet

Nail or bolt for holding together metal plates, etc., its headless end being

beaten out or pressed down after passing through two holes.

Roshnī-i-Ālam

One of Aurangzeb's shields meaning 'Light of the World.'

S

Saddle

Rider's seat placed on the back of horse, usully concave-shaped, of leather with side-flaps, girths and stirrups.

Saddler

Maker of or dealer in saddles and epuipments of horses; man incharge

of mounted regiment's saddlery.

Sannāha

Body armour.

Suaniā

Name of the Roman lance. Similar lances were wielded by the Indian

soldiers in the 6th century B.C.

Sāyā-i-Ālam

One of Aurangzeb's shields meaning 'Shadow of the World'.

Scale armour

Small plates, like the scale of a fish, sewn upon leather or fabric and

used as armour.

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Sharāvarna

Same as 'shabrack'; cavalry saddle-cloth. Shabraque Gladiators according to the Ain-i-Akbarī. Shamshirbaz

Vedic name for a shield. Sharāvara Same as sharāvara.

Variously shaped and sized detached piece of armour made of leather. Shield

wood or metal, for wearing on left arm to recieve thrust or stroke

Hunting scenes. Shikargah

Helmet Shirāstrāna Armourer Sikligar Silehkhānā Armoury Same as mārū. Singauta

Persian name for a shield. Sipar Large infantry shield. Sipar-i-chhāk

Large infantry shield used during siege. Sipar-i-farākh

Shield of rhinoceros hide. Sipar-i-karg

Kite-shaped shield. Sipar-i-shushāk Vedic term for a shield. Siprā

Hide of flaved animal with or without the hair. Skin

Skull The bowl of the helmet.

Spike The surmounting part of a helmet.

Stirrup Rider's foot-rest usually consisting of iron loop with flattened base hung

by a strap.

Strap Strip of leather or other flexible material with buckler or other fastening

for holding things together.

Surcoat Outermost garment worn over 'hauberk' or 'gambeson'.

Suspension strap See 'guige'.

T

Tah-tilā or teh-tilā True damascening.

Tāla Shield made of wood or leather.

Tālamūla A wooden shield.

Talwar A typical Indian sword, slightly curved.

Tanutrāna Body armour, also called tanutra.

A shield with two widely separated loops through which the arm is Target

passed.

Tark A pointed and segmented helmet also called tarik, targ or tarikah.

Tuft of loosely hanging threads or cords as ornament for cushion, shield Tassel

or armour.

Tehnishān True damascening.

Condition of metal as to hardness and elasticity; mixture specially suitable Temper

for combination of ingredients resulting condition or consistence.

Tilwā A cavalry shield of the Mughals. Glossary

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Trappings

Harness of horse specially when ornamented; ornamental accessories of

horse or elephant.

Trident

Three-pronged weapon or implement; trishūla.

Trikutam

Shield studded with three bosses.

Tripod

Three-legged stand for supporting a gun or any other article.

Tulugamā

The battle array adopted by Babur in the battle of Panipat (1526 A.D.)

Trivarūtha

Thrice-strong shield.

Tūgh

Banner

Tunic

Short linen shirt reaching above the knee, worn under the coat of mail.

Tura

Large wooden round mantlets employed by Bābur at Pānīpat,

### U, V

Ushnisha

Turban

Valahkānta

A bamboo or leather shield.

Varman

Body armour or coat of mail, same as varma or varmani.

Varnishing

Kinds of resinuous solution applied to wood, metal, etc., to give hard,

shiny transparent surface.

Varūtha

A huge shield.

Varvana

A coat reaching up to the knee.

Velvet

Closely woven fabric wholly or partly of silk with thick short pile on one

side.

Vesthana

A kind of turban.

Vikavacha

Unarmoured

#### W

Waist-band

Kamarband; a belt worn round the waist.

Wambais

Same as 'gambeson'.

Washer

Flat ring or perforated piece of leather, rubber, metal, etc., used to give

tightness to joint, nut, fastening, etc.

Watered steel

Damascus steel, jauhar, wotz or faulād.

Wicker

Plaited twigs or osiers as material of baskets, chairs, mats, shields, etc.

Wicker work

Things made of wicker.

## X, Y, Z

Yakbandi

A sword belt.

Yak-hāth

The warriors fighting with one hand only.

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Zari A broocade with silver and gold threads.

Zamındar Landlord Zirah Mail

Zira-bhonk Mail-piercer

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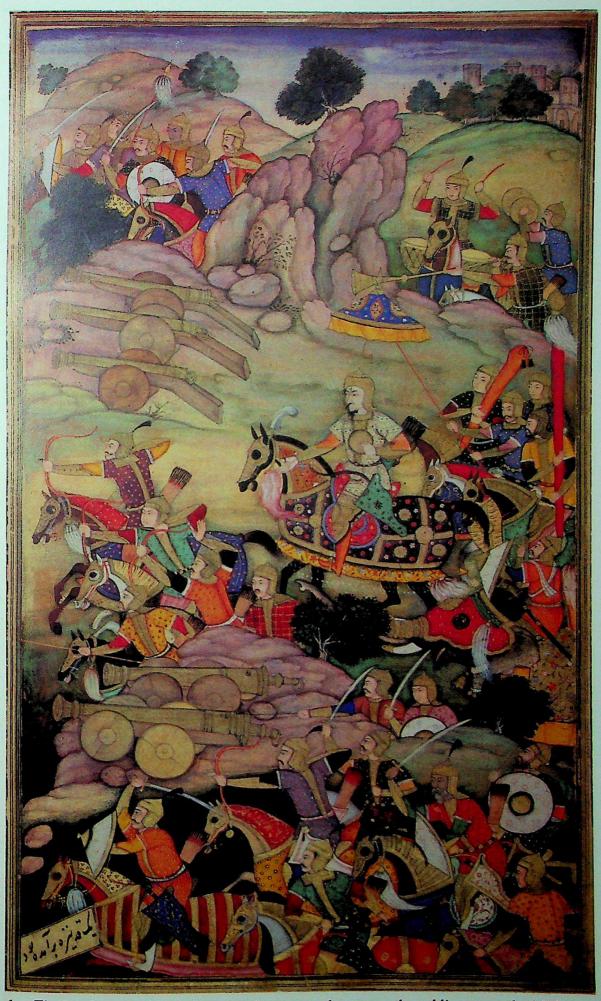
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1. The battle of Panipat. Between the guns and cannons the soldiers, armed with bows and arrows, are making sallies CC-0. UP State Museum, Hazratganj. Lucknow



2. Details of the battle of Panipat. Armoured horses and cannons are specially noticeable



3. Bābur, riding a caparisoned horse, is commanding a battle (details)

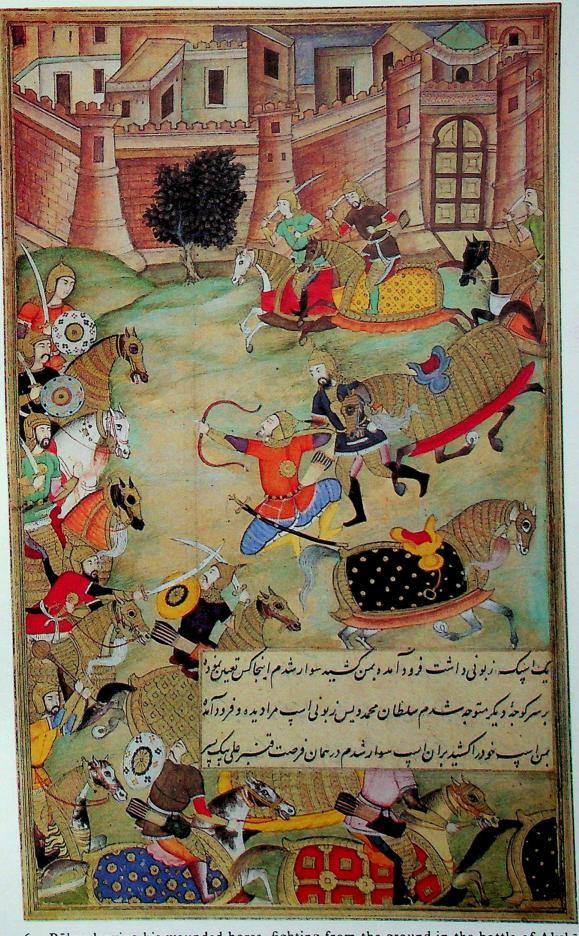
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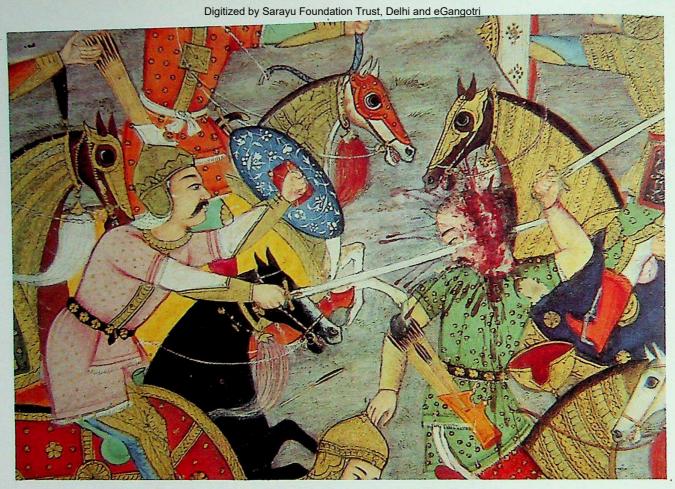
4. Battle-scene near Murghan Koh near Kandhar. The painting is packed with action. Bābur holding a naked sword is charging the enemy. Facing him is Muqīm, the Uzbek, holding a shield. Drums are being lustily beaten by the drummers of both sides (artist: Makrā)



5. A scene of battle between Sultān Husain Mirzā and Khusrau Shāh's soldiers at Kām Rud Valley (artist: Shiv Dās)



6. Bābur leaving his wounded horse, fighting from the ground in the battle of Akshī (artist: Asī)

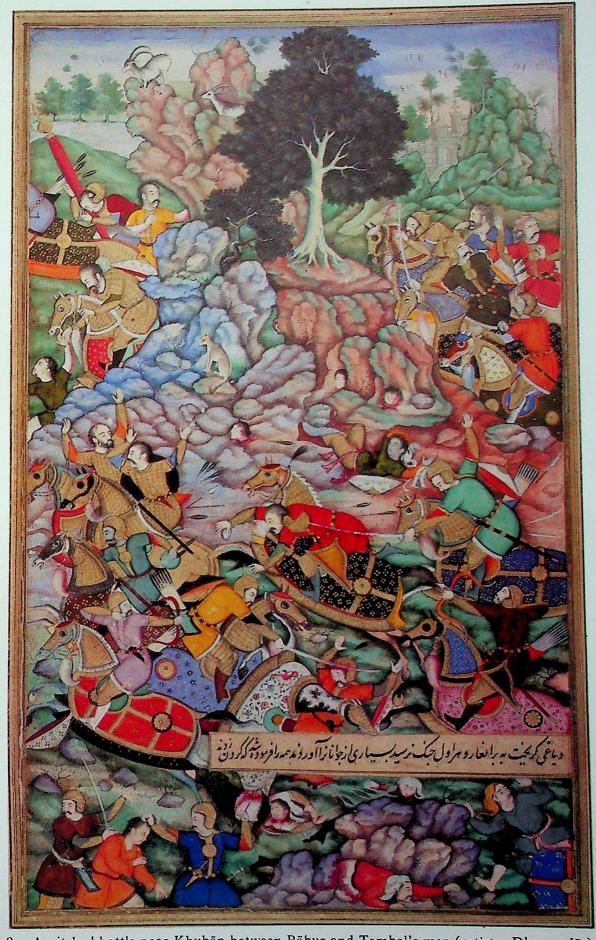


7. Details of a battle between Sultān Husain Mirzā and Khusrau Shāh's soldiers at Kām Rud Valley (artist: Shiv Dās).

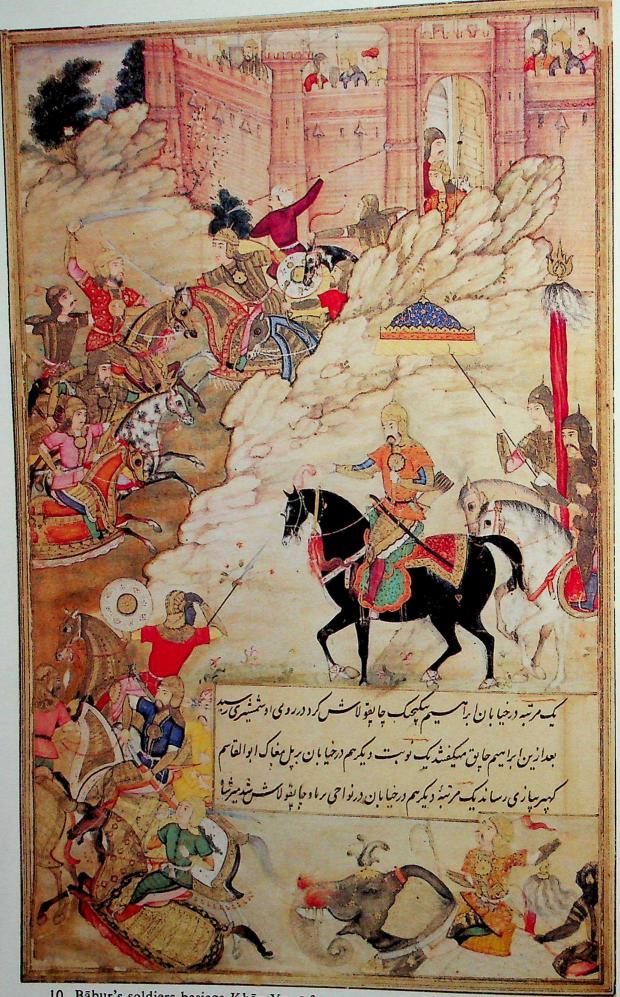


8. Bābur fell down on the ground then leaving his wounded horse he started fighting from the ground in the battle of Akshī (details; artist: Asī)

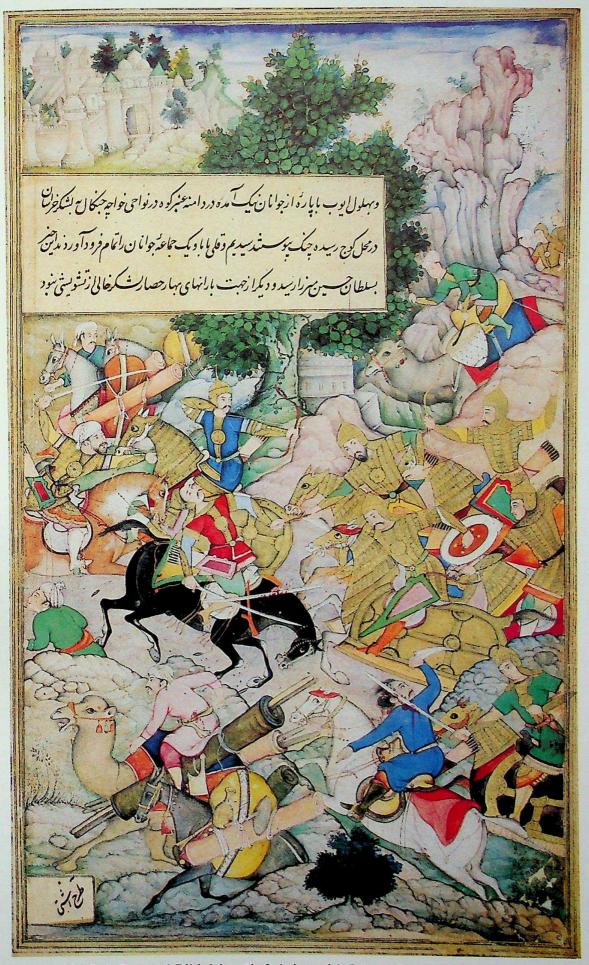
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9. A pitched battle near Khubān between Bābur and Tambal's men (artist: Dharmadās)

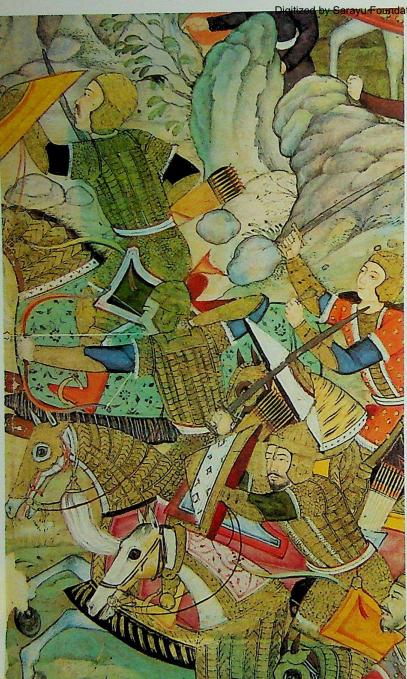


10. Bābur's soldiers besiege Khān Yurtī fortress near Samarkand (artist: Shankar)



11. Qulī Beg and Bihlul-i-ayūb fighting with Khurāsānīs at Ambar Koh

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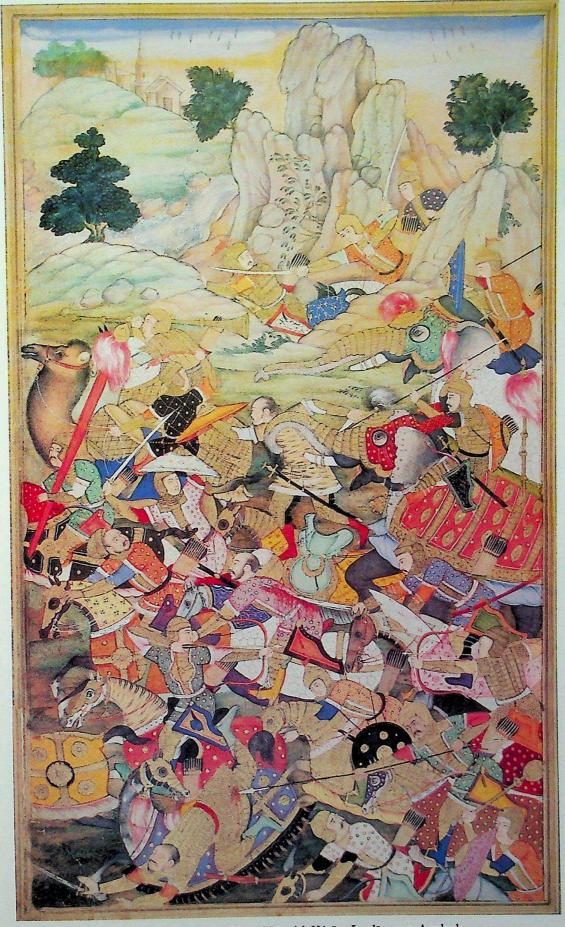


12. Close-up of a battle. The arms and armour used by the Mughal soldiers are perceptible



13. Details of a battle-scene showing armoured horses and armoured men

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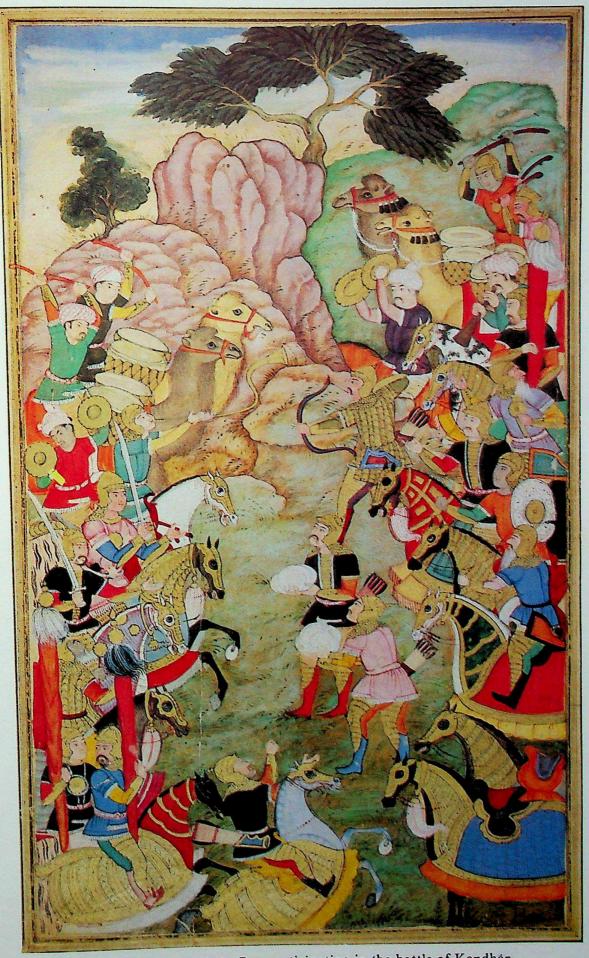


14. Humāyun defeats Hāmid Khān Lodī near Ambala



15. Acclamation of nine standards. A ceremony before proceeding on war is being held. Bābur is standing on a strip of white cloth. In the foreground is an old Mughal soldier holding a piece of cloth which he had tied to the leg of a cow. All the soldiers are armoured from head to foot (artist: Jaganāth)

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16. Shāh Beg and Pīr Beg participating in the battle of Kandhar.



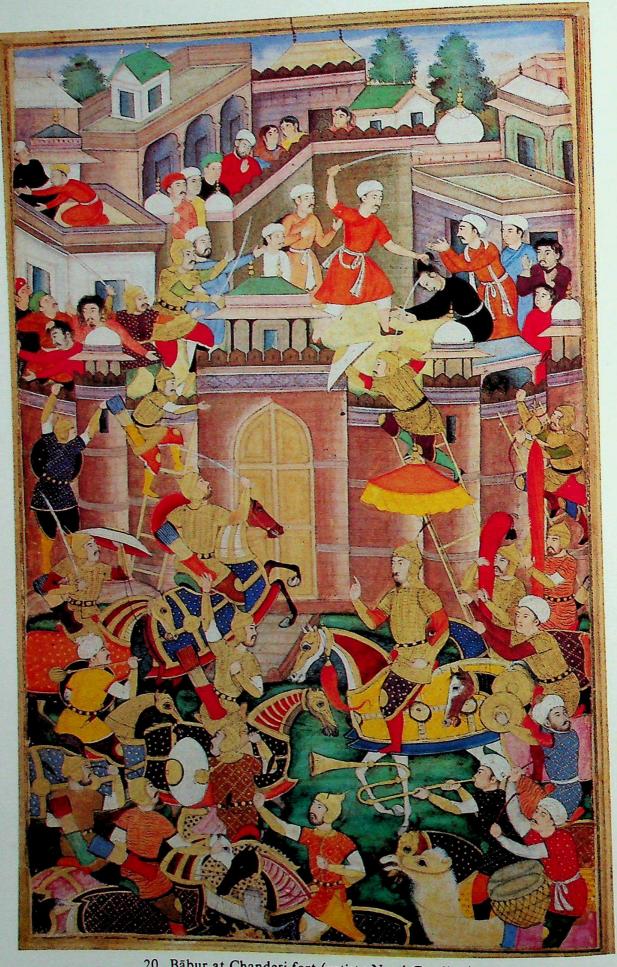
17. A pitched battle near Khūban between Bābur and Tambal's men (details; artist: Dharmadās)



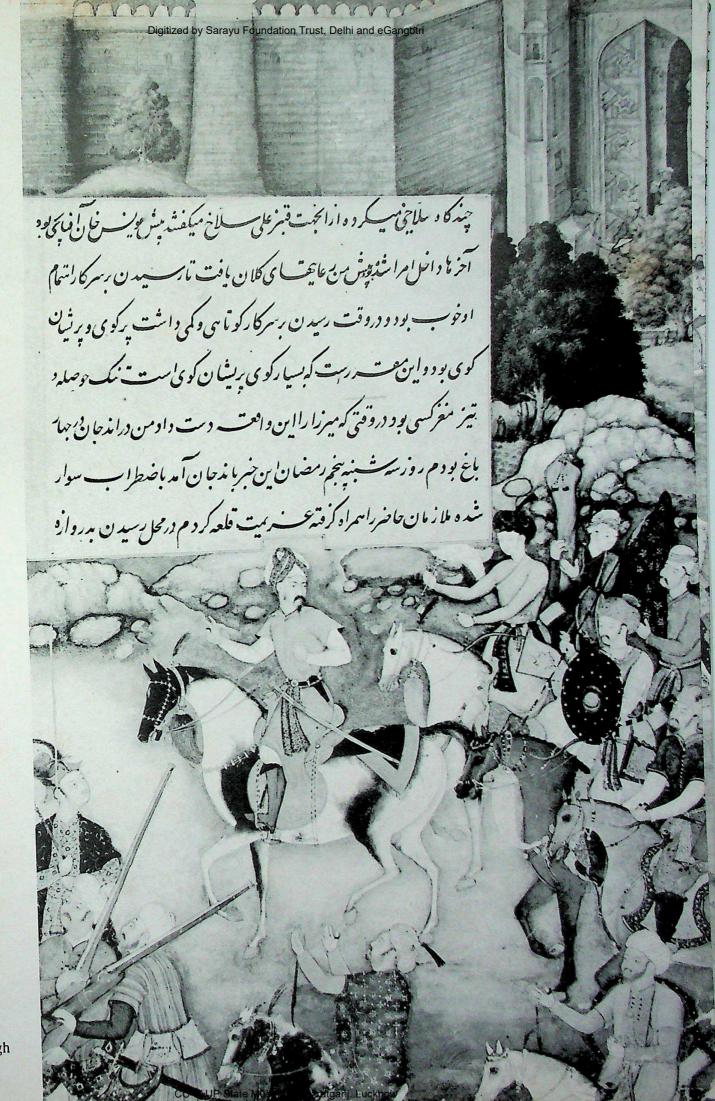
18. Bābur with a sword in his raised hand is fighting with Tambal carrying a shield at Andijān (details)



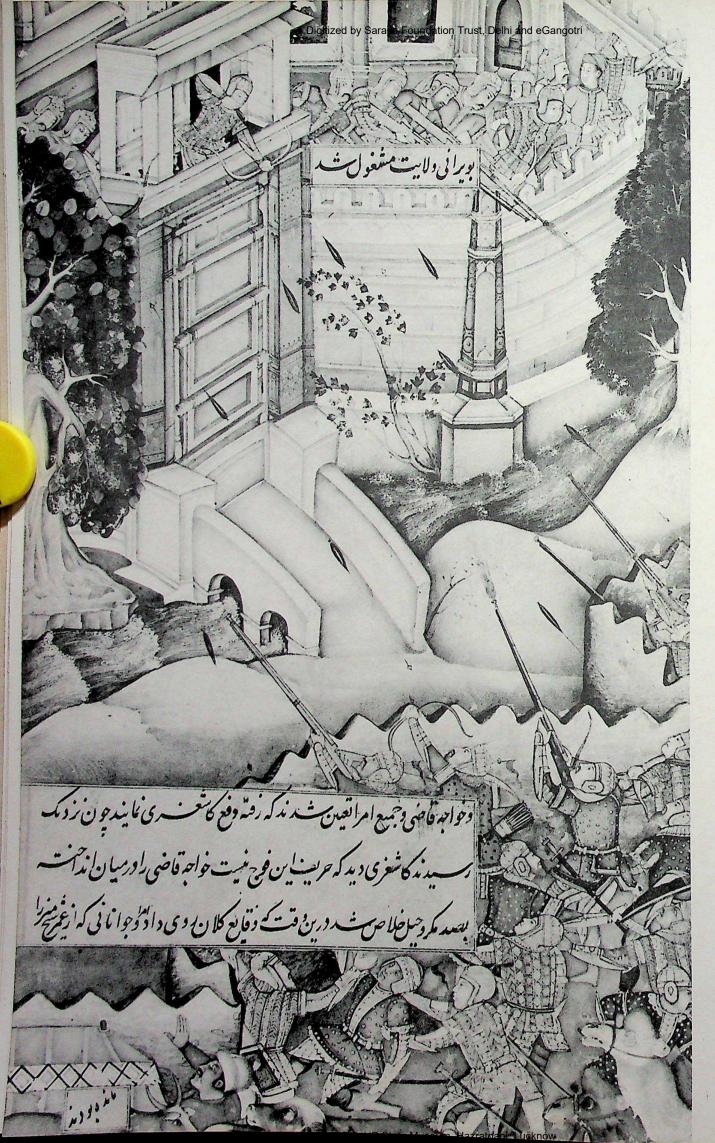
19. A scene from the battle of Khānuā



20. Bābur at Chanderi fort (artist: Nand Gwaliorī)



21. Bābur in Chār-bāgh at Andijān.



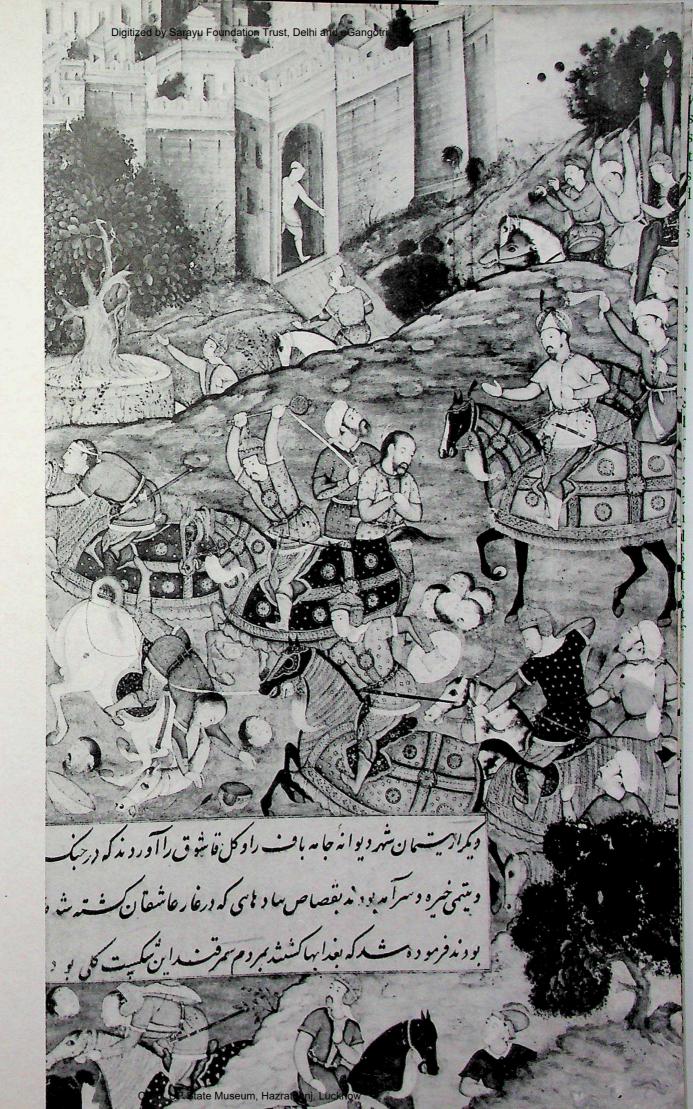
22. Babur attacking the fort of Aba-biker at Kashgar.

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23. Battle between Sultān Husain Mirzā and Khusrau Shāh.



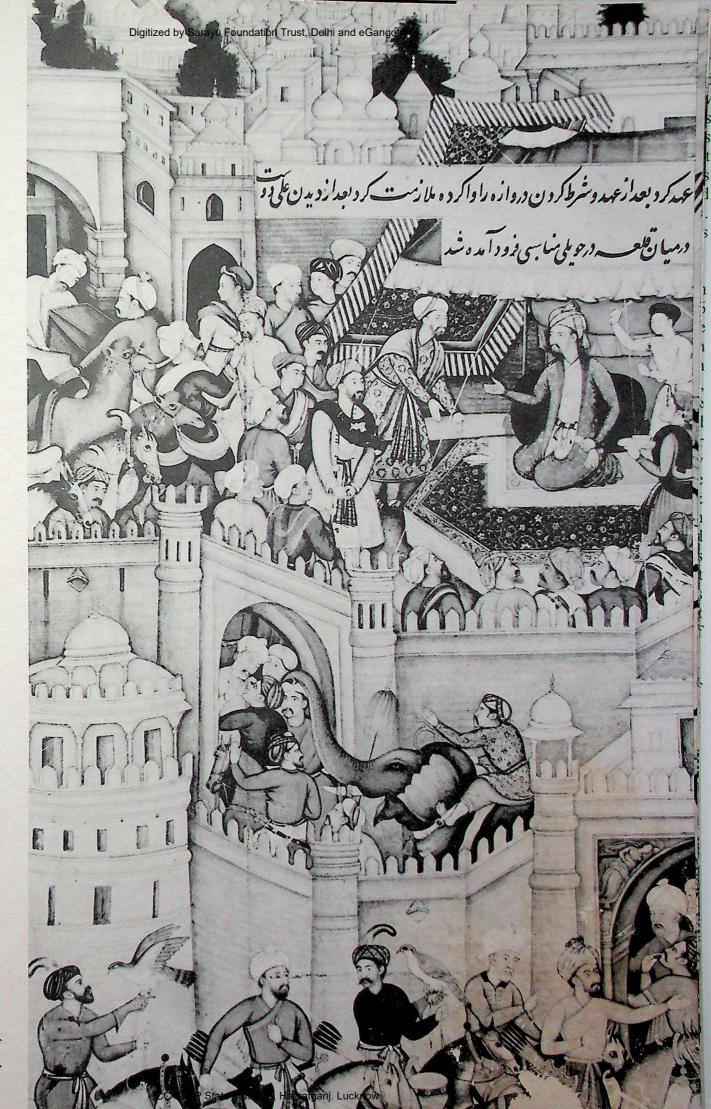
24. Bābur meeting
Sultān Alī Mirza at
Samarkand.



25. Defeat of Samarkandis at the hands of Bābur at Āshiq Ghar.



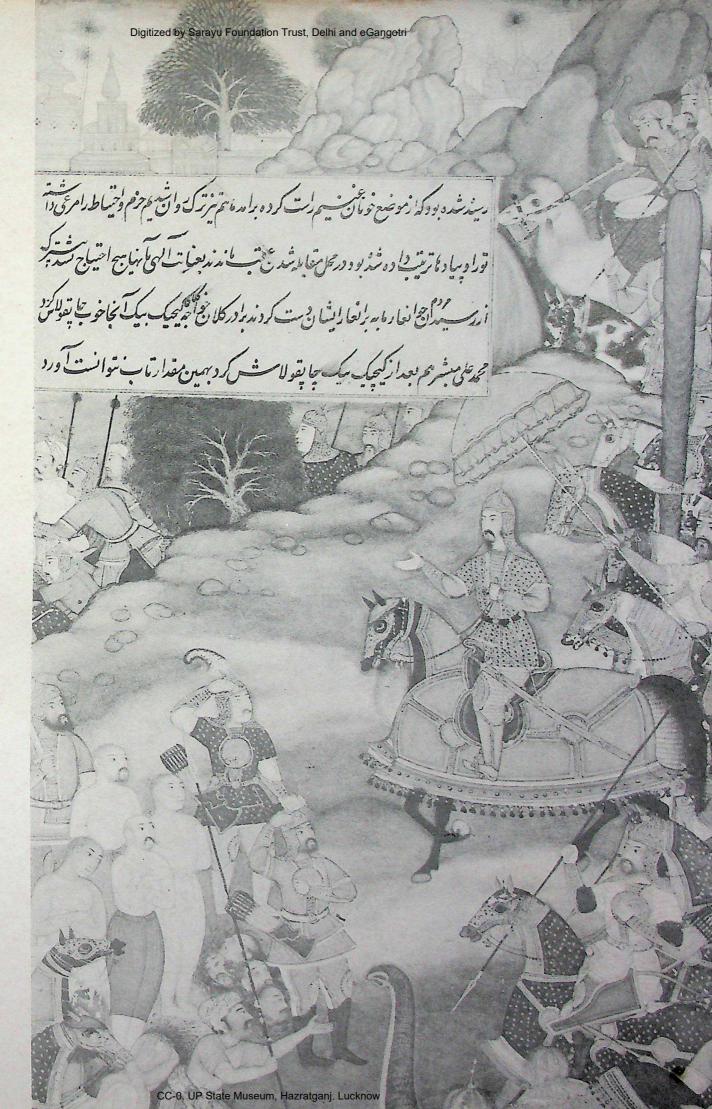
26. Bābur coming out from the Khwājā Didār Fort, Samarkand.



27. Capture of the fort of Marghinan by Babur.



28. Babur attacking the fort of Madu.



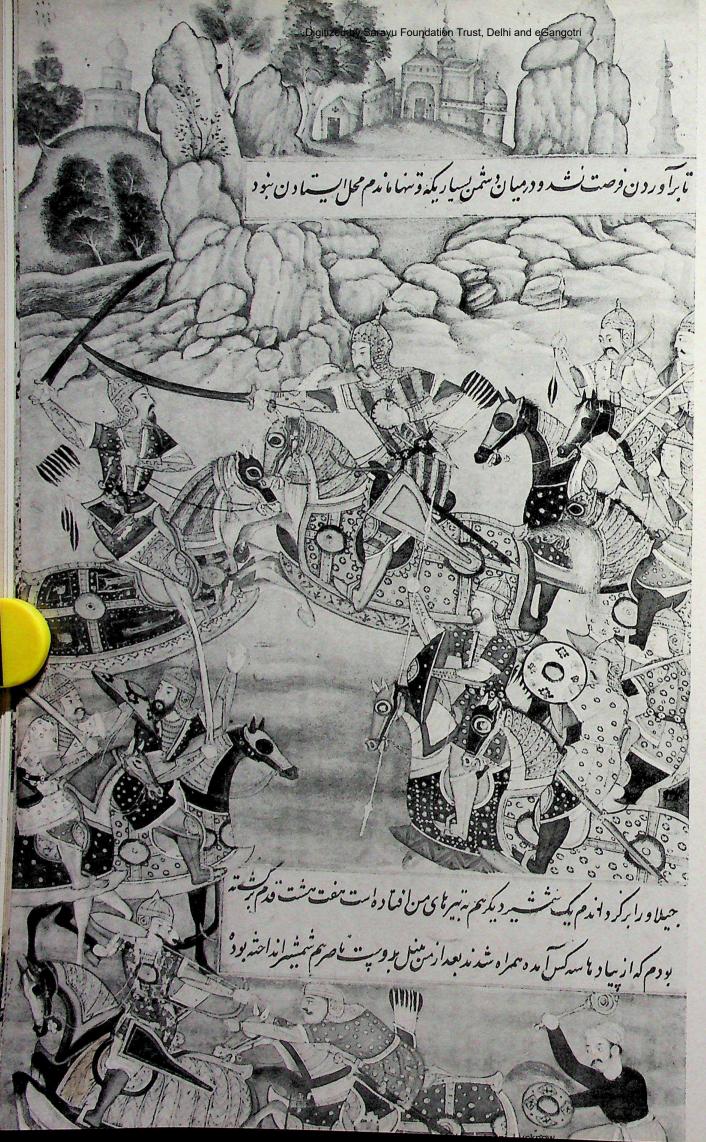
29. Bābur's victory over Tambal at the battle of Khubān.



30. Bābur and his men are retreating at Andijān.



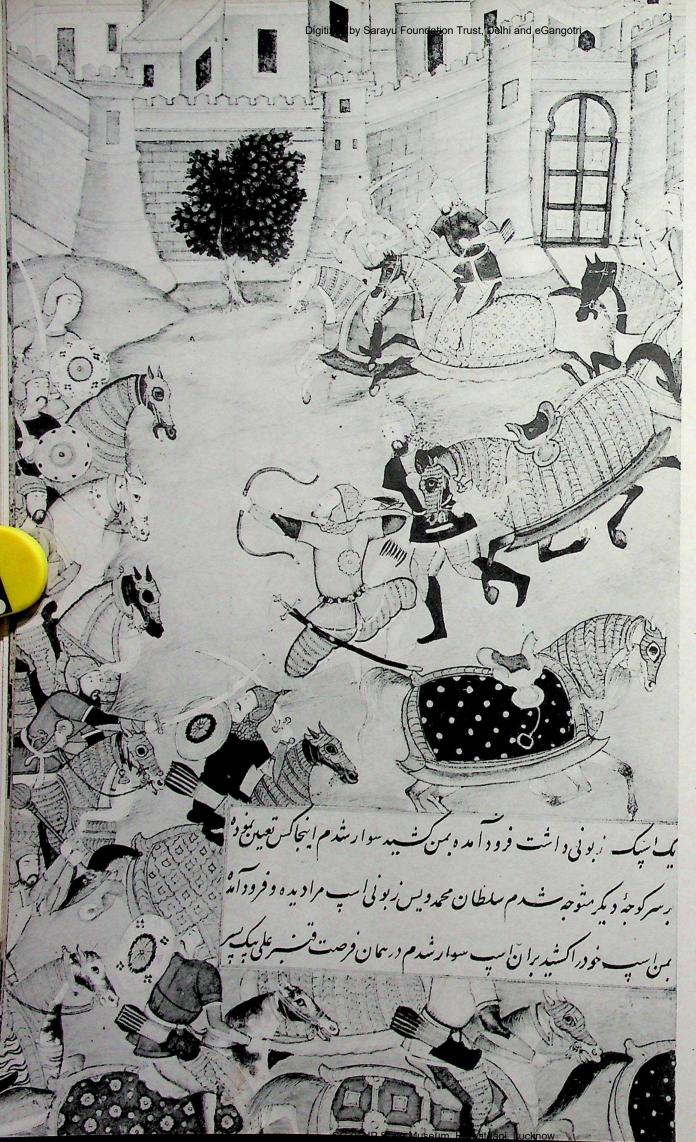
31. Details showing Babur fighting Tambal.



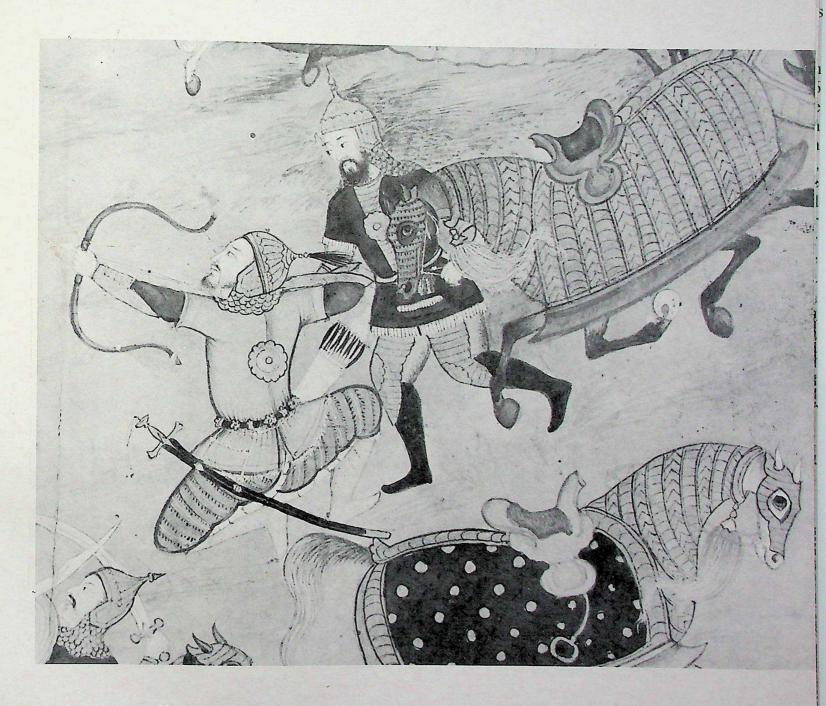
32. Bābur struck with a sword by Tambal at Andijan.



33. Details of plate 32.



35. Babur fighting from the ground in the battle of Akshi.



36. Details of plate 35.

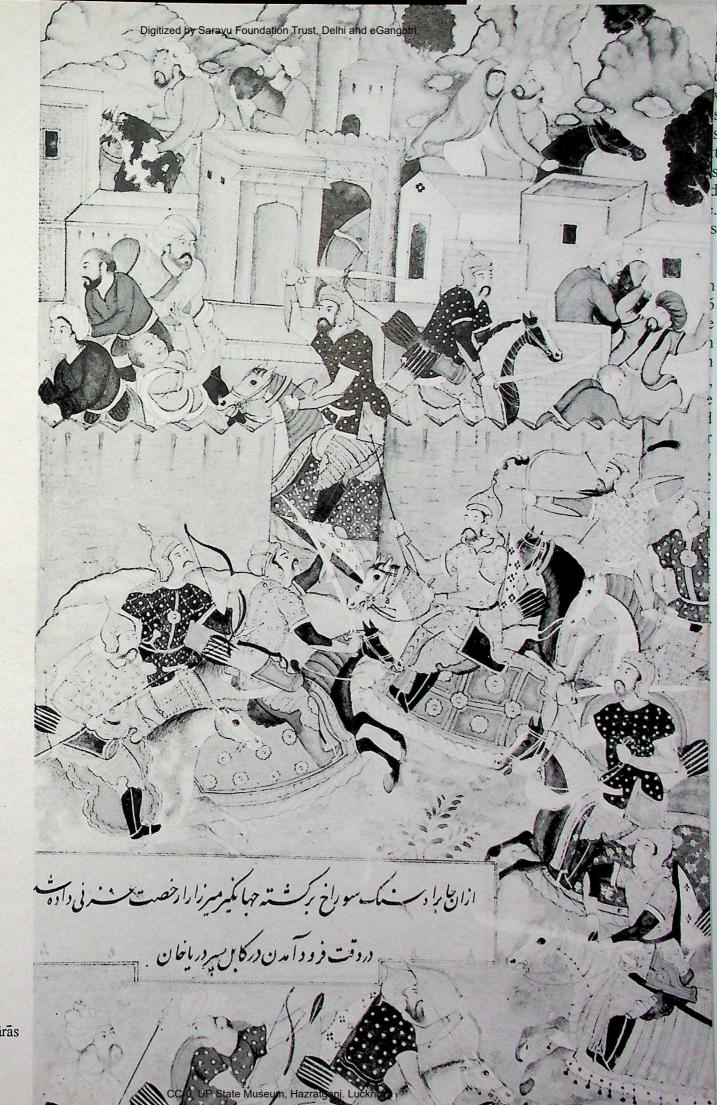


37. Babur defeated by Tamba

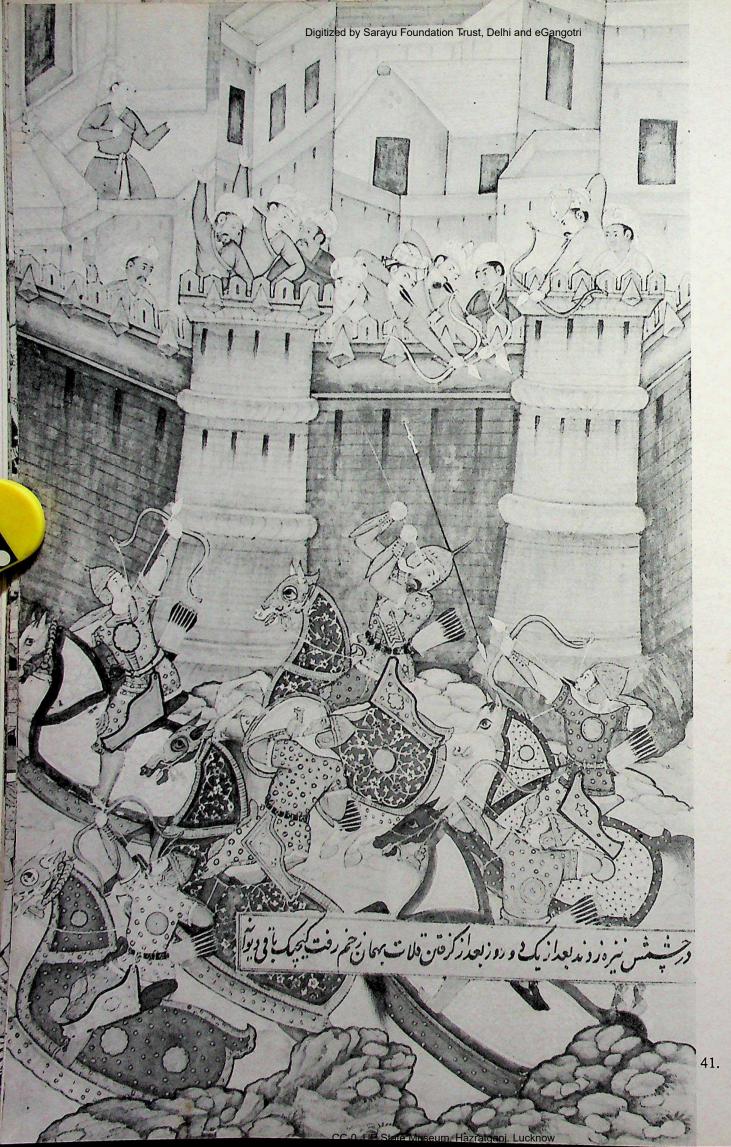




39. Details of plate 40.



40. Bābur attacks the Hazārās near Jaltū Kabul.



41. Bābur's army attacking the fort of Qalāt-i-ghizali.



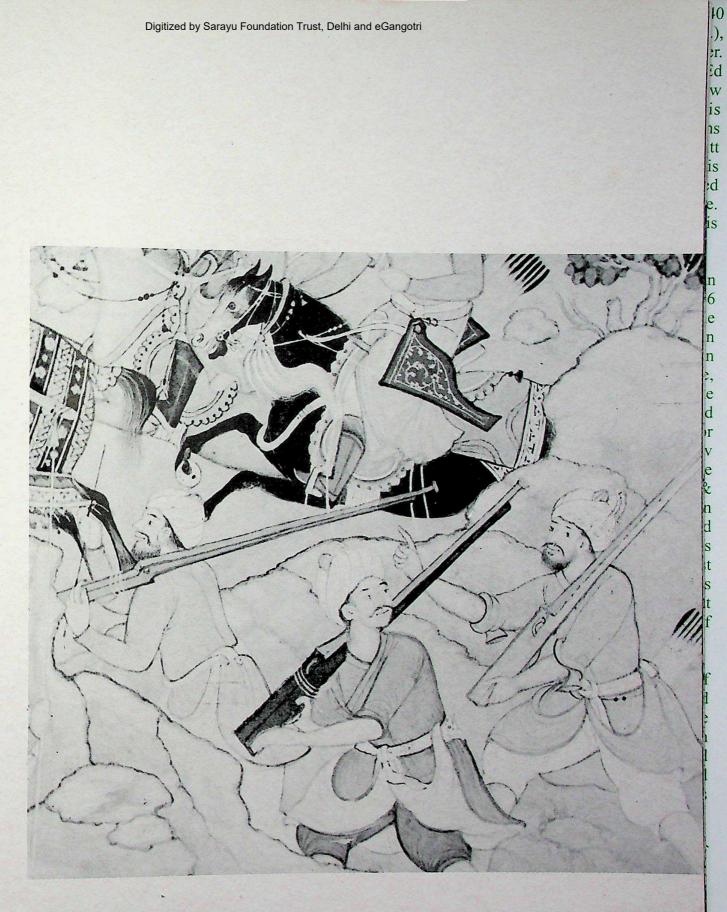
42. Details of plate 41.



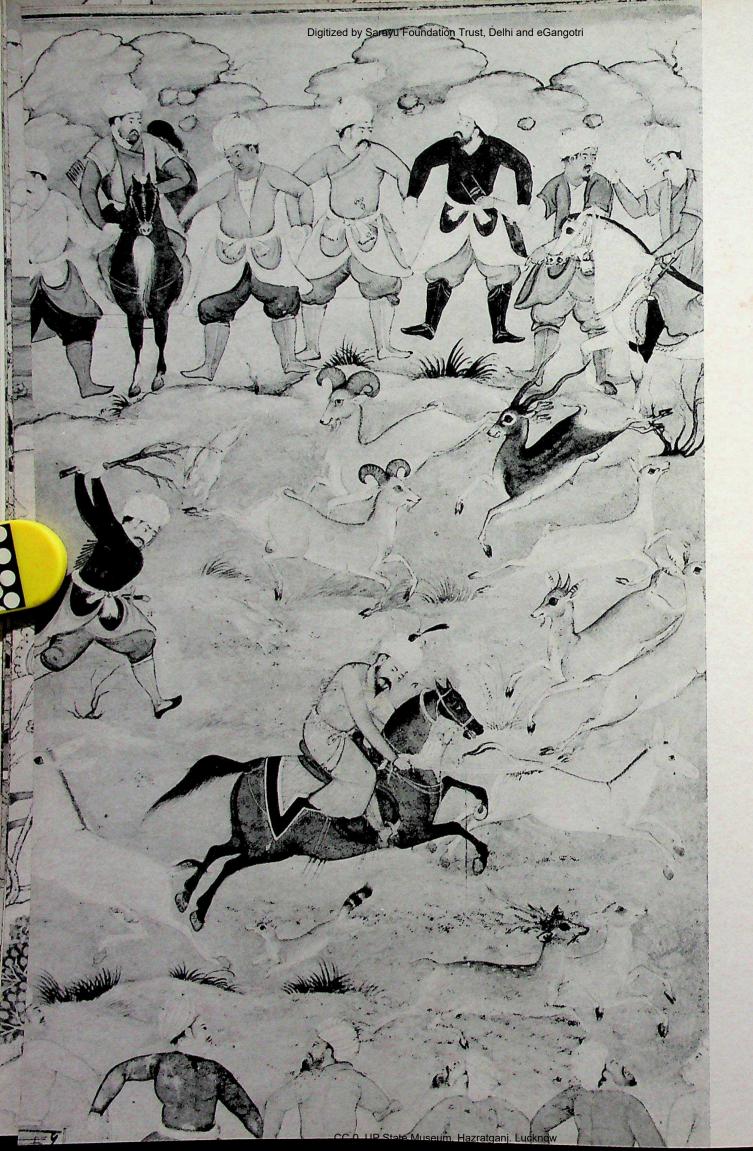
43. Details of plate 41.

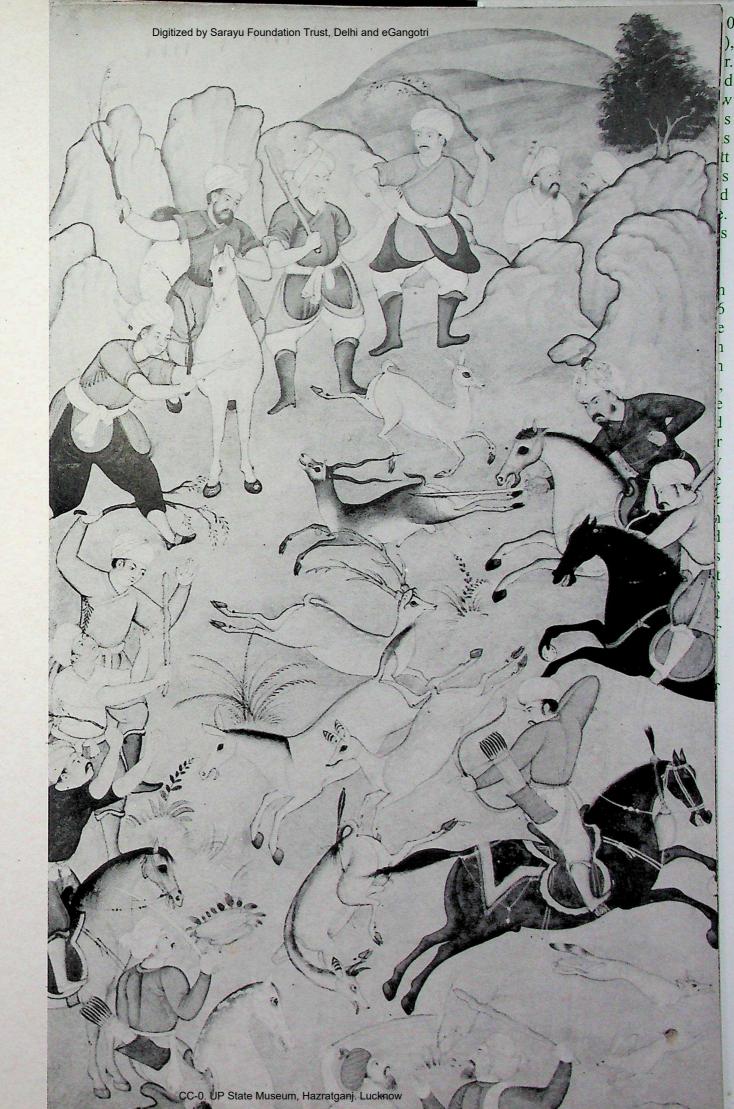


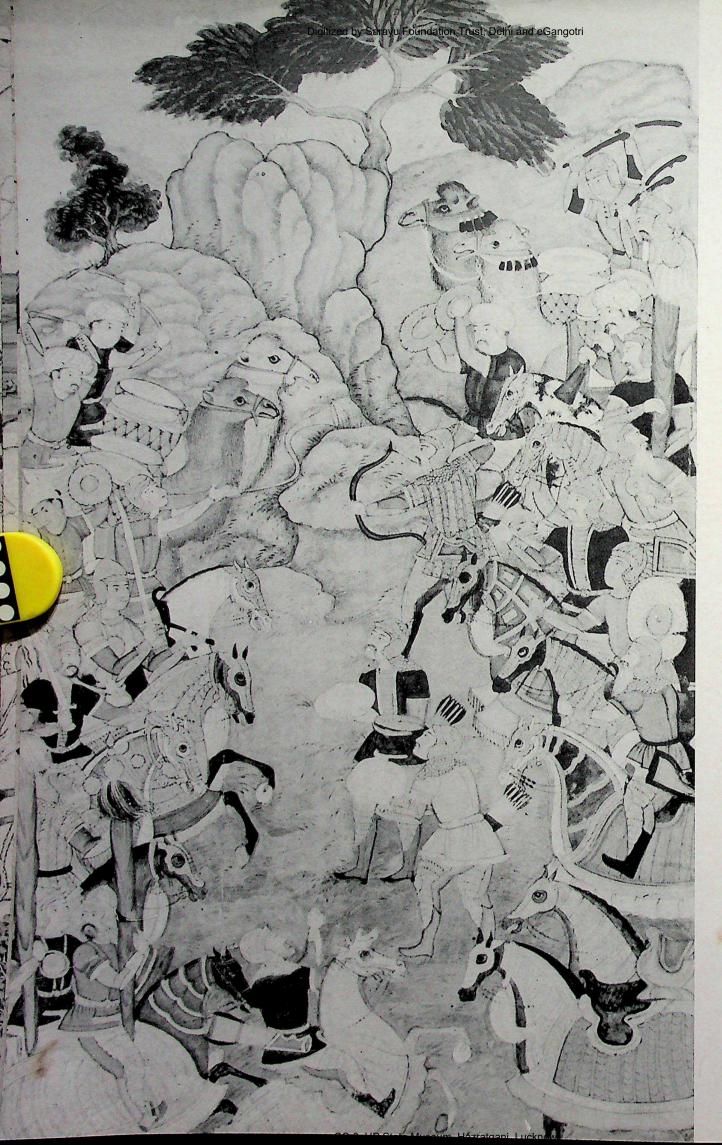
44. Babur attacking Turkāmān Hazārās.



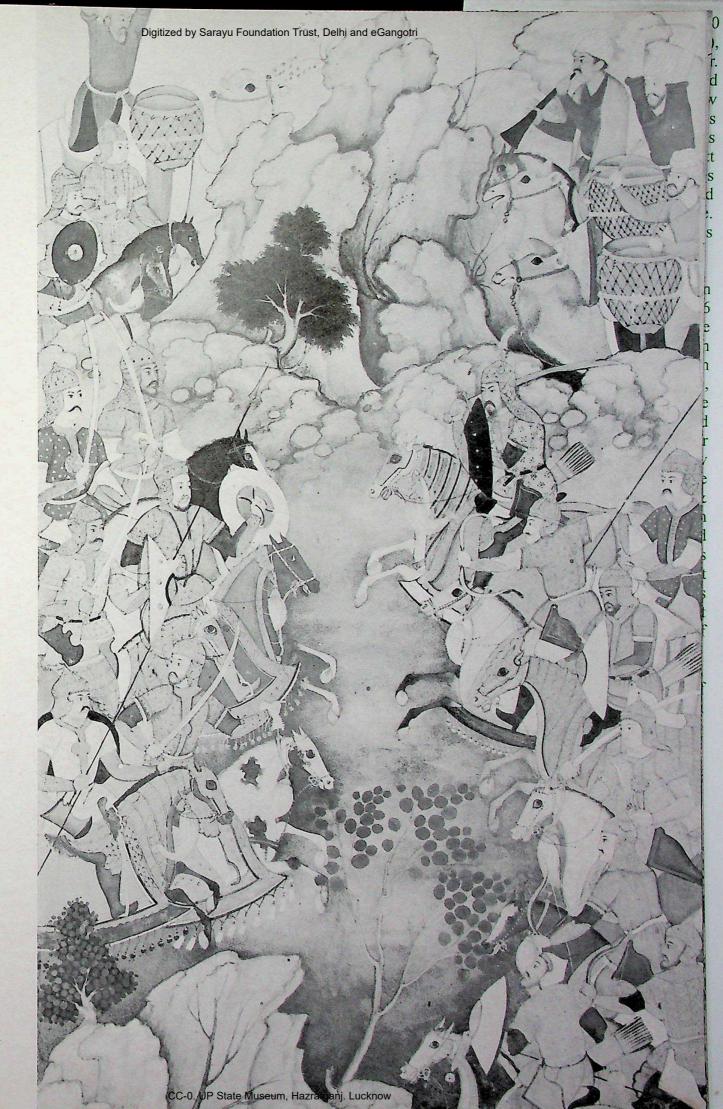
45. Details of plate 44.







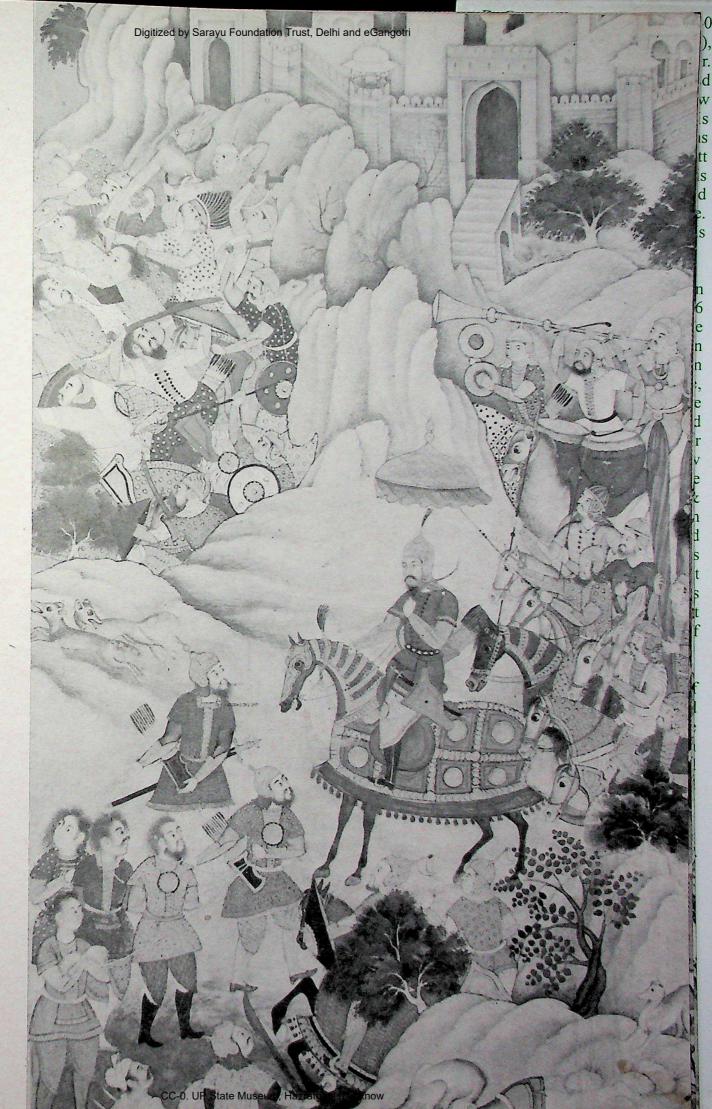
48. Shāh Bég and Pīr Bég participating in the battle of Kandhar.



49. Battle scene near Murghan Koh.



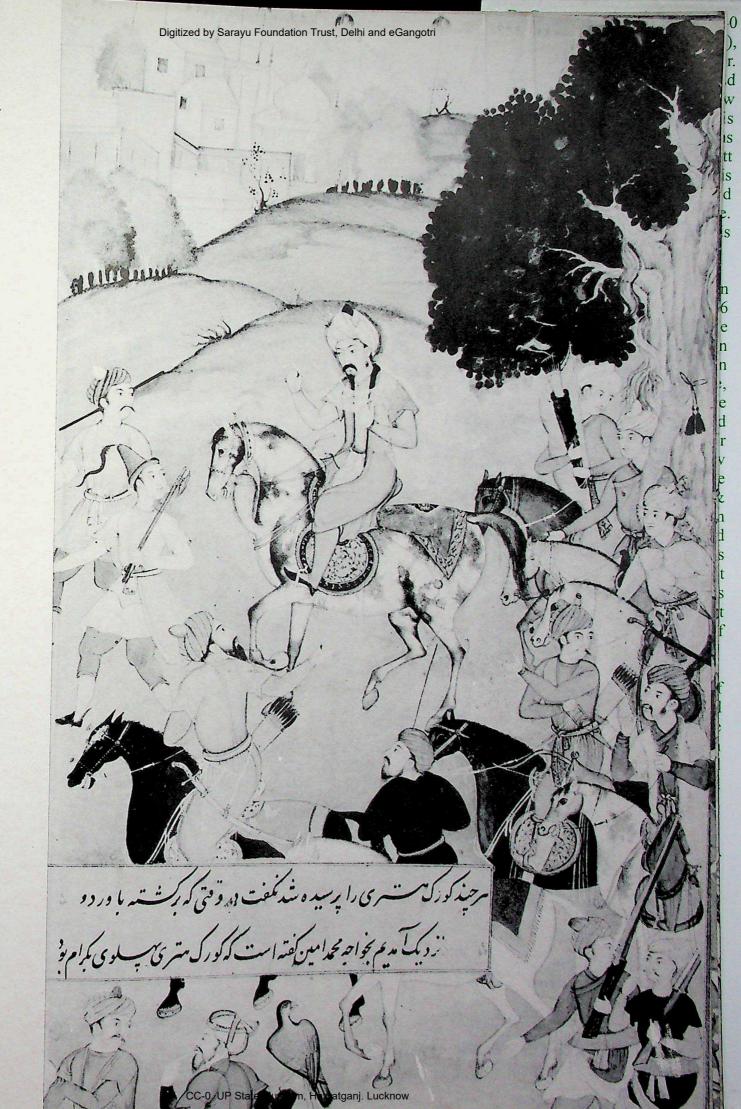
50. Battle with the Afghans near Kabul.



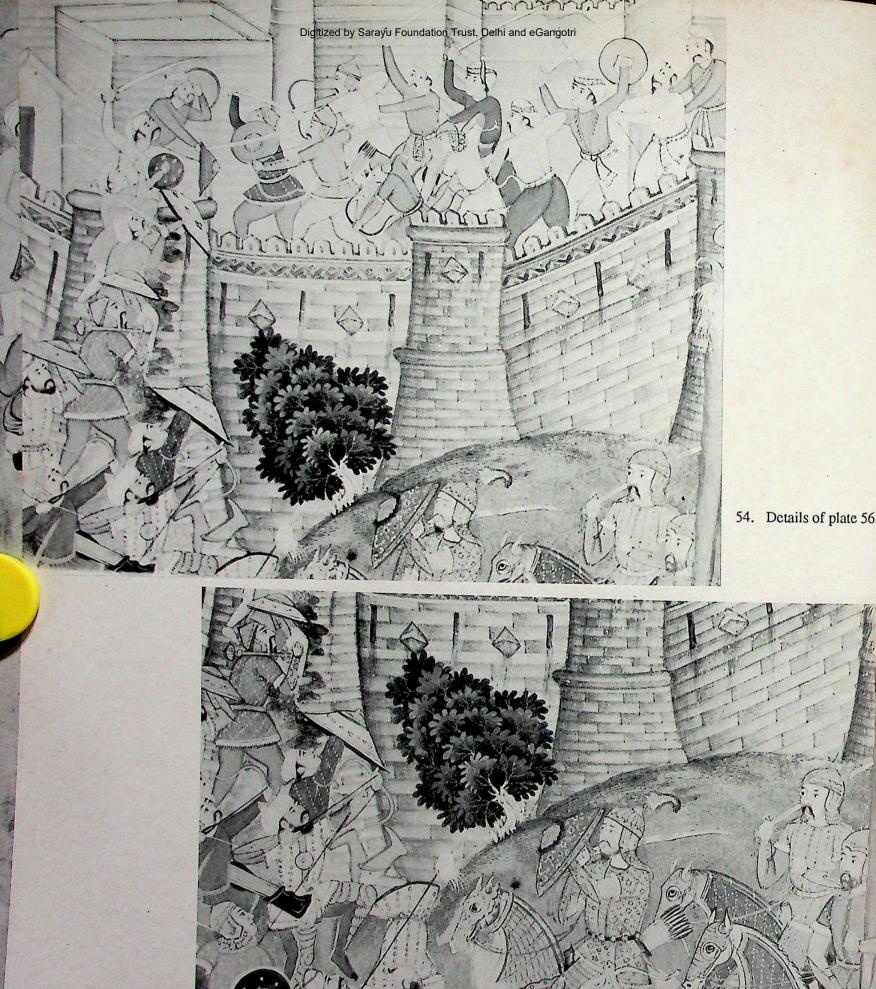
51. Battle scene showing Afghans killed and captured.



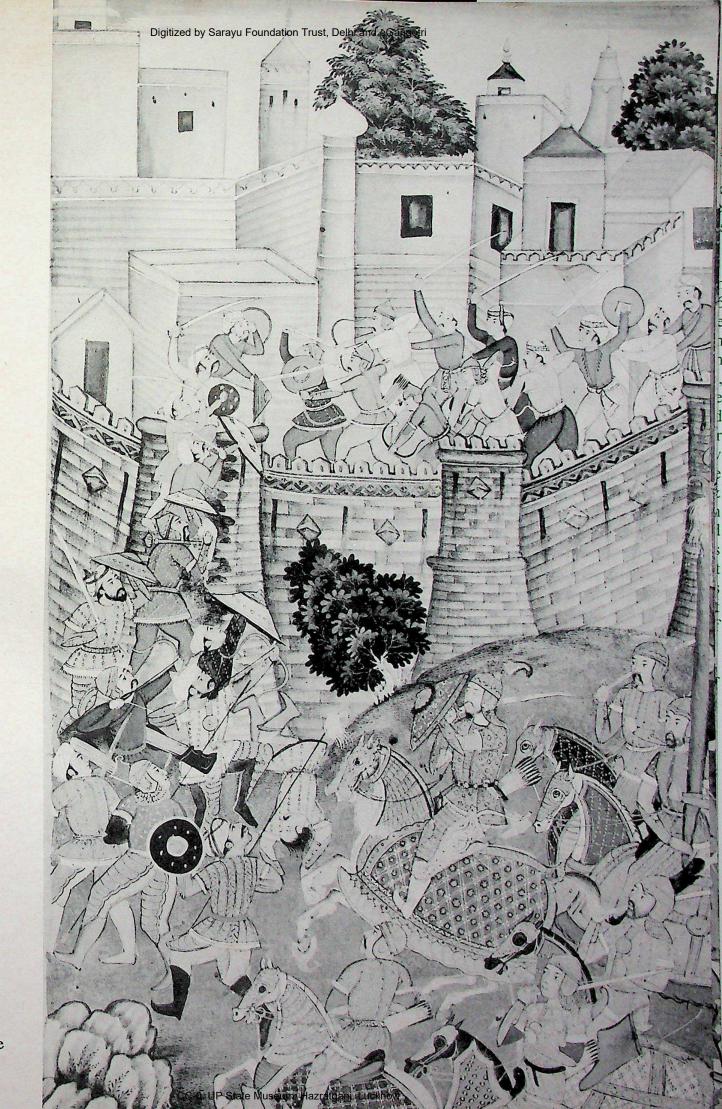
52. Babur crossing a river seated on a raft.



53. Babur making enquiries.



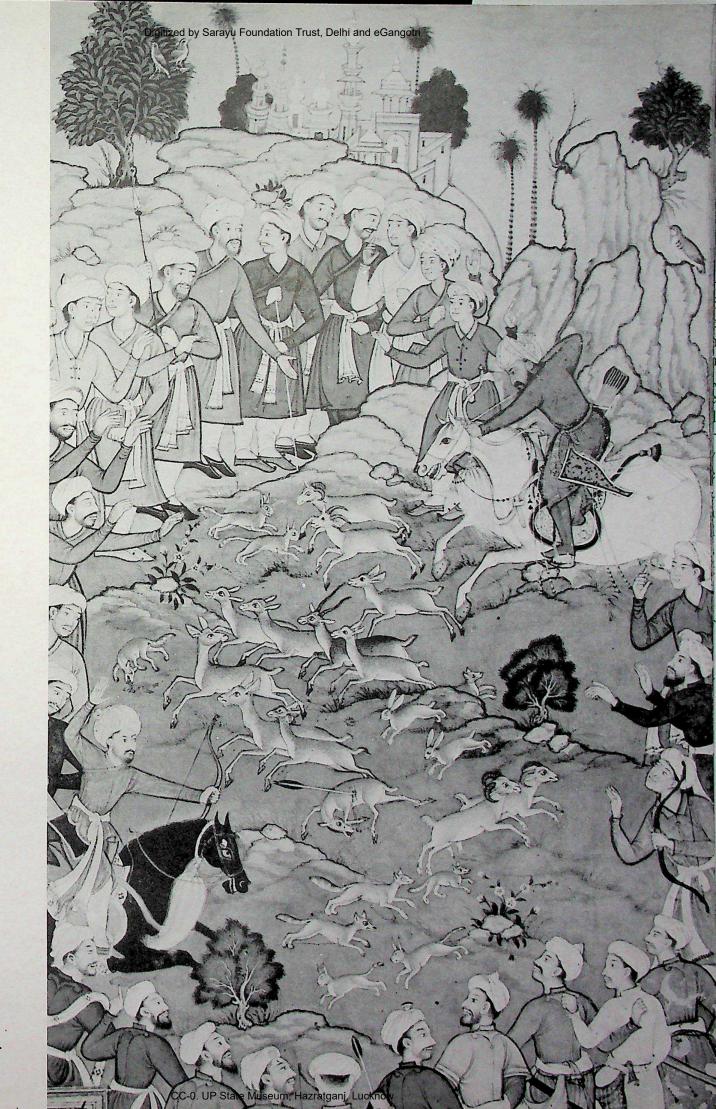
55. Details of plate 56.



56. Bābur captures the fort of Bājaur.



57. Babur crossing the Indus.



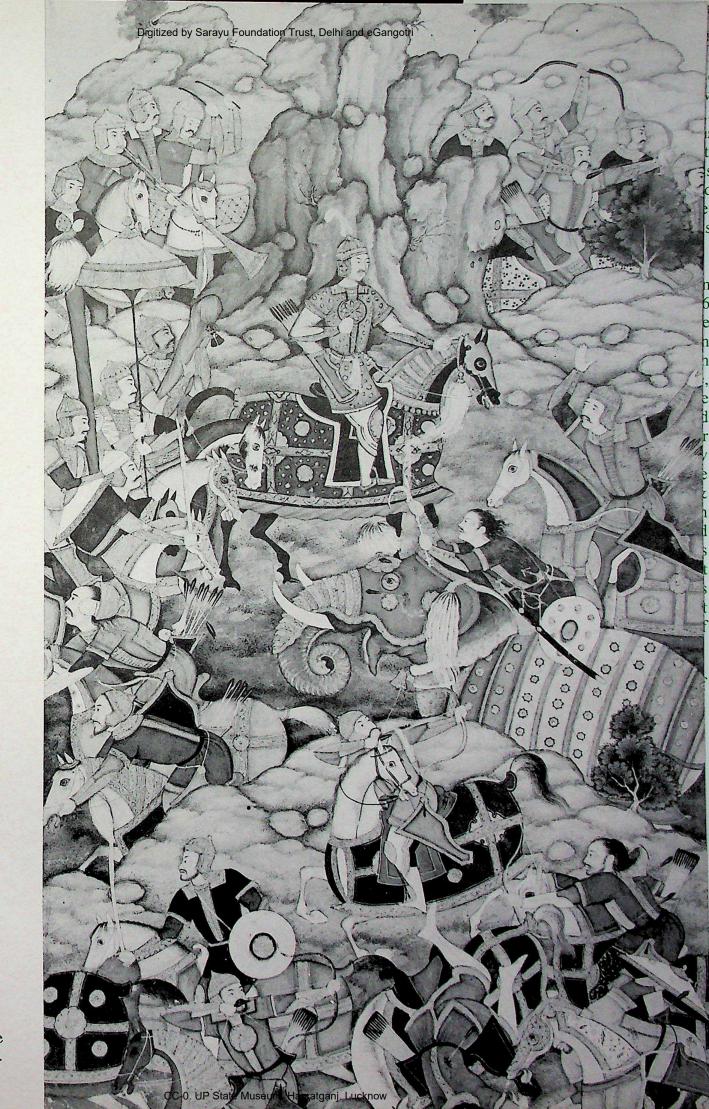


59. Soldiers of Babur preparing to cross the Indus.





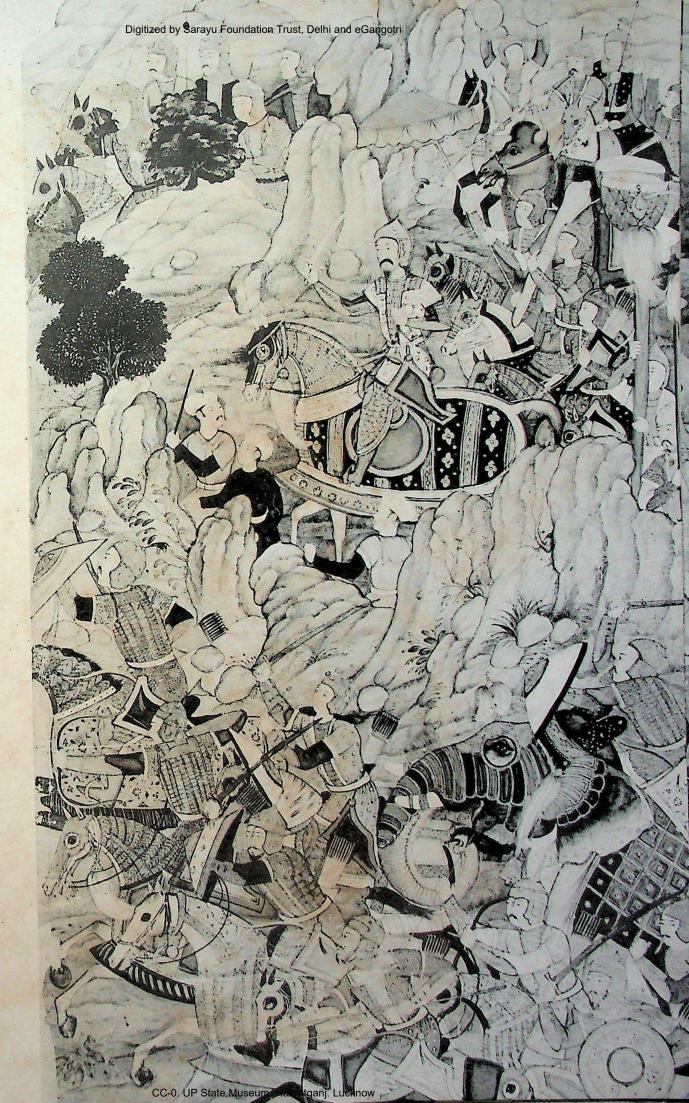
61. Humāyun defeats Hāmid Khān lodī.



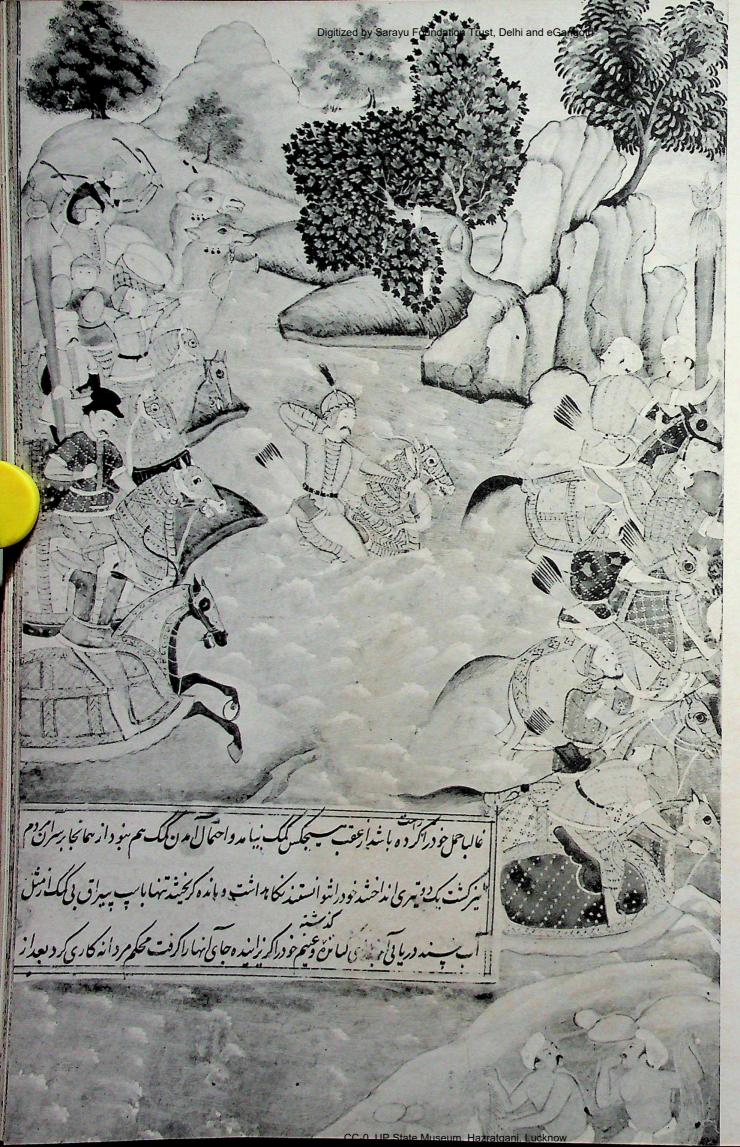
62. A scene from the battle of Panipat.



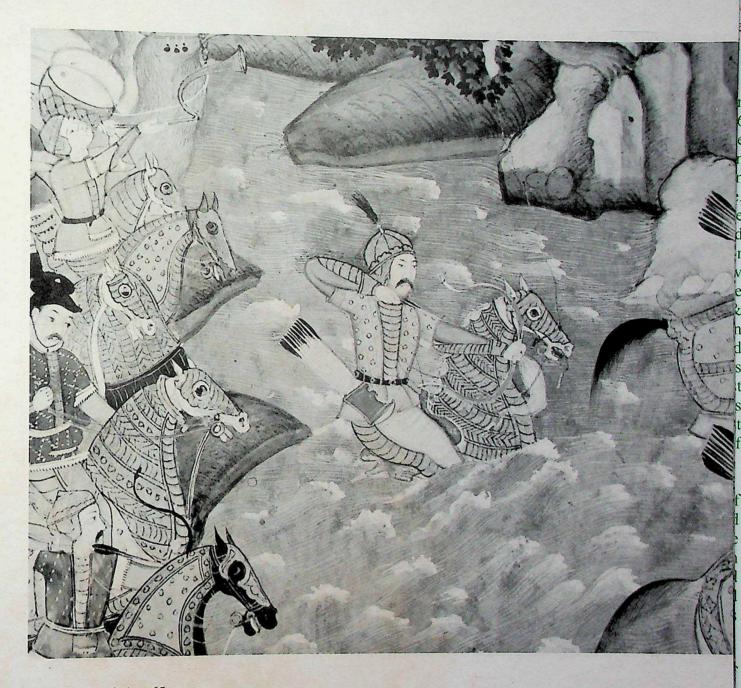
63. Bābur's attack on Bājaur.



64. A scene from the battle of Khanua.



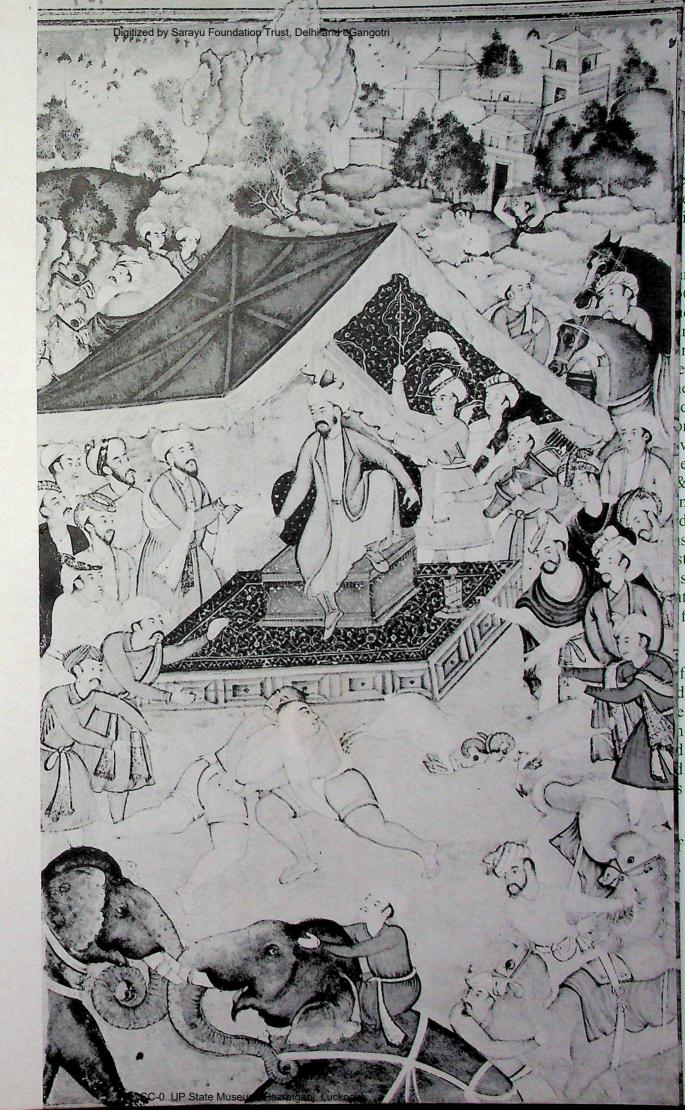
65. Babur shooting arrows.



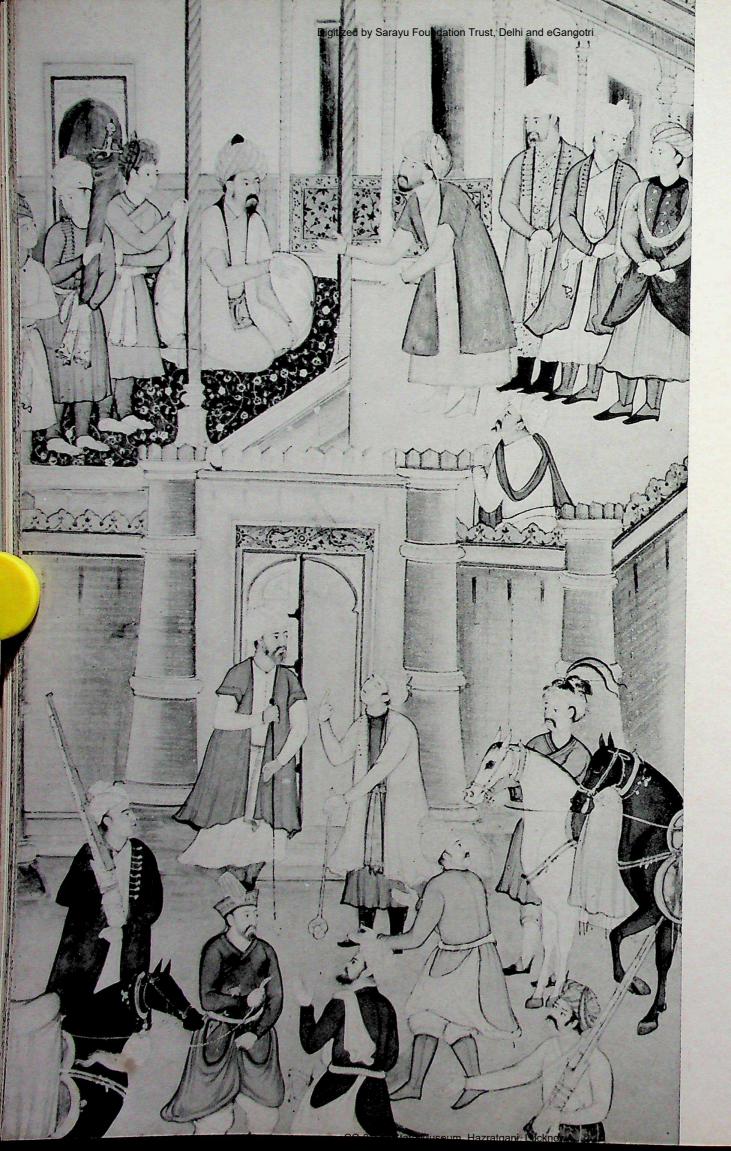
66. Details of plate 65.

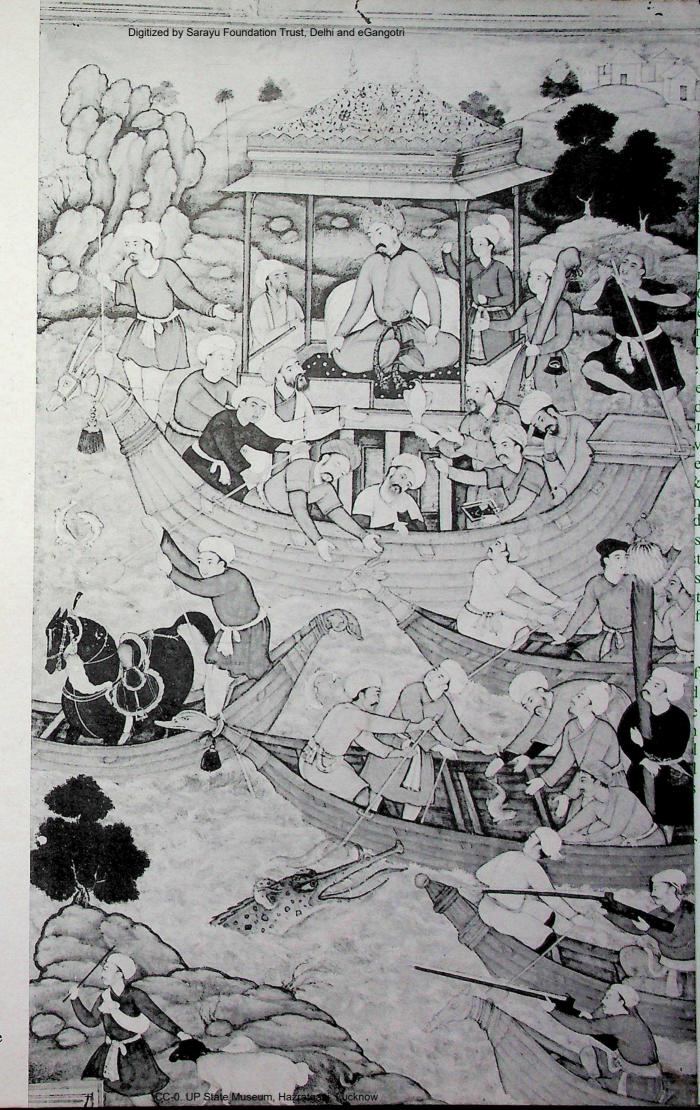


67. A scene from the battle of Khanua.

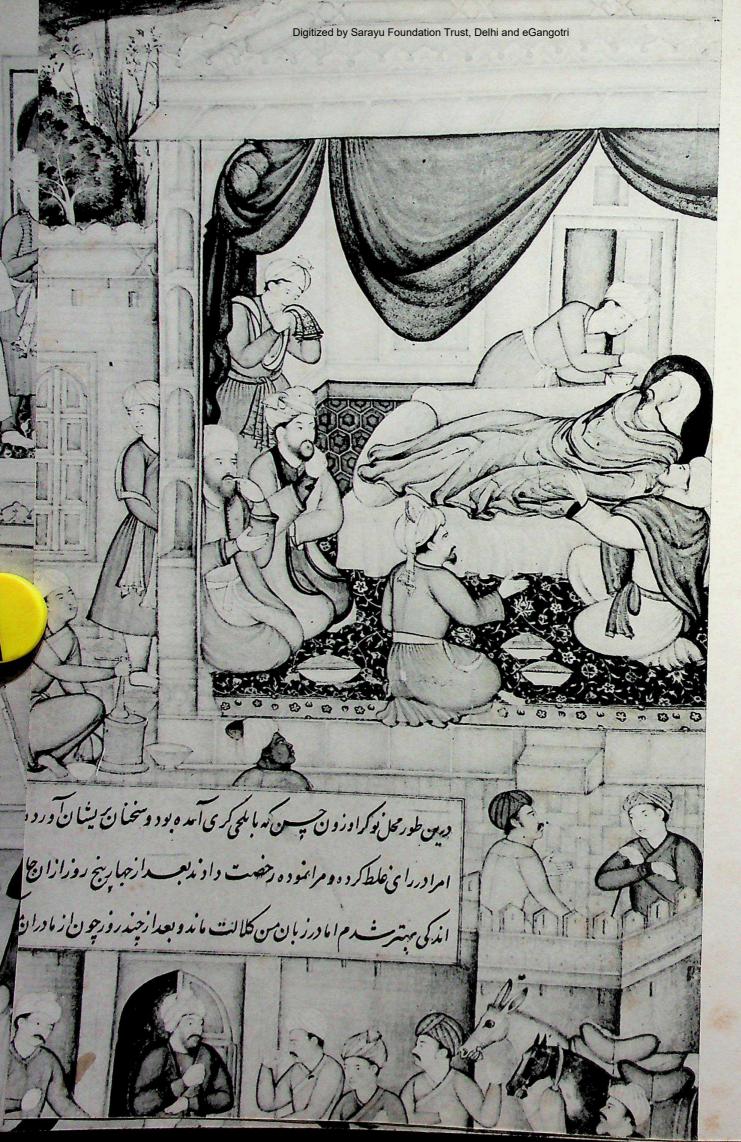


68. Babur witnessing fights.





70. Babur crossing the river Son.



71. Babur on the c



I have heard that Jamshīd, the magnificent,
Inscribed on a rock at a fountain-head
Many men like us have taken breath at this fountain,
And have passed away in the twinkling of an eye;
We took the world by courage and might,
But we took it not with us to the tomb.

Bābur-nāmā, f. 99 (tr. pp. 152-153) (extracted from the Bustan (Graf's ed., Vieena, 1858, p. 561)

Dr.Gayatri Nath Pant born in 1940 at Singhi (Lakhimpur Kheri, U.P.), He had a distinguished career. After passing his M.A., and B.Ed Examination from Lucknow University, he Obtained his Doctorate on Ancient Indian Arms from sagar University and D.Litt from University of Magadh. His Proficiency in Sanskrit enabled him to study classical literature. He has 200 research papers to his credit.

Dr. Pant's first book Indian Weapons was published in 1966 and the second, studies in the defense history Bibliography in 1970. The gigantic work studies in Indian weapons and warfare, published in 1970, fetch him the president of India's Acclaim and his Bhartiya Astrasastra won for him. Acharya Narendra Dev Special Award. His other notable publications are Indians Arms & Armor in three volumes, Indian Archery (1980), Indian Shield (1982), Catalogue of Indians Arms in the Hamuragies Museum, West Germany (1984) Catalogue Arms in the Janagadh Museum Gujarat (1984), etc. A Number of Monographs are in press.

Dr. Pant has prepared half a dozen catalogues of arms and armor and has studied the collection of almost all the Indian Museums He has traveled U.S.S.R., U.K., Africa, etc., and studied the oriental arms preserved there.

Dr. Pant is the member of 'Archer Antiquaries', London;

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